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OTORRHEA—"A RISING IN THE HEAD."*

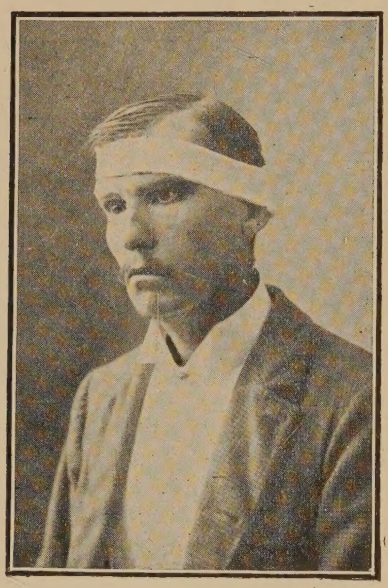
By W. L. BULLARD, M. D.,

COLUMBUS, GA.

Otorrhea, like "Liver Disease," takes in a wide range, and yet defines nothing definitely. Any discharge from the ear might be termed under the generic name of Otorrhea. Oftentimes we have a discharge from the external auditory canal resulting from various causes, such as boils, foreign bodies, acute diffuse inflammation of the external canal-otitis externa acuta. Syphilis in the secondary stage when the nasepharynx is involved, is frequently the source of acute otitis, which, unless appropriate treatment is rendered, is liable to become chronic otorrhea. Adenoid vegetation of the pharyngeal vault, together with hypertrophied tonsils, will aggravate, keep up or prolong an already purulent discharge from the ear. Hay-fever, whooping-cough and sea bathing will sometimes cause acute otitis, terminating in chronic otorrhea. Coryza and the oxanthema are the most common causes, especially measles and scarlet fever, the latter being indeed a most frequent cause. Teething, diphtheria and typhoid fever is said to cause it, and of recent years la grippe has left as it sequele, or marble shaft, so to speak, not a few cases of chronic purulentcy in the ear or ears. The otologist occasionally finds phthisical subjects with an otorrhea, bidding defiance to successful treatment. To be afflicted or diseased with this indescribable stinking (and all cases are offensive and ill-smelling) chronic purulent discharge from the ear is sufficient cause for great mortification and despondency, which always accompany those who are pathologically so afflicted. This reason alone, not

*Read at the Georgia State Medical Association, April Convention, 1901.

mentioning resulting deafness, which always accompanies chronic otorrhea, should demand prompt and scientific treatment. But we have other complications following or accompanying chronic otorrhea. Should the sufferer be that of a child, and the greater number of cases commence during childhood, and just so soon as the mucous membrane become destroyed and necrosis of the membrana tympani and osicula chain become advanced, then the ill-smelling discharge from the ear is so disagreeable and offensive that the poor innocent child becomes a burden to playmates, teachers and all with whom it comes in contact. This is a deplorable condition and should not be allowed, and when properly attended to in its incipiency will never become chronic. If so allowed, however, then in conjunction with complications already mentioned, we may have mastoiditis with its complications, one of which is abscess of the neck from middle ear and mastoid suppuration. I will here introduce a picture taken ten days after a Schwartz operation, showing a typical case of this kind following a chronic otorrhea.



This patient, male, consulted me three years ago. He had been troubled with otorrhea quite a long time, and when first seen by me he had mastoiditis with abscess of the neck. The pus had broken through the inferior surface of the mastoid process and under the sterne-mastoid muscle and formed a swelling on the side of the neck as large as a medium-size orange. A drainage tube was inserted into the incision made in the neck, curved up and brought out at the mastoid wound, the resulting cicatrix can be seen just above the collar. This patient had lost flesh, pudse rate high and suffering from septicemic poison. He objected to taking chloroform, but willingly took a glass of brandy, and I did a Schwartze operation at my office and he never went to bed, but daily visited my office that I might dress the wound. He made a quick and perfect recovery—the same as if he had been in the sanitarium surrounded by trained nurses. I have seen numbers

of cases of mastoiditis, but none more remarkable or interesting. We could add still more serious complications resulting from chronic otorrhea, but to mention such would only interest the otologist, instead of turia (yellow chills) in fifteen years, it was my misfortune to fall heir those for whom this paper is written. Enough, however, is said to show and convince those interested that such sayings as "the child will out-grow it" and the dicharge should not be "dried up" is unscientific and dangerous advice. The best treatment for chronic otorrhea is the careful attention with successful remedies used in the acute stage, and if this stage is managed properly few cases (only) of chronic otorrhea will ever be found in the case-book of the otologist. This kind of (appropriate) treatment is the simplest kind. The tendency of acute otorrhea (otitis media acuta) is to get well, and if the external auditory canal is kept dried or wiped out thoroughly the discharge which comes from the middle ear through a perforation in the drum membrane. This is simply drainage, and the best way to do this is with a small wire—a straightened hairpin—the end wrapped with absorbent cotton, and the ear mopped out, so to speak. Do this every hour if the discharge is very profuse, and as the discharge diminishes prolong the time between the drying or mopping. Two or three times daily after a thorough drying, dust lightly some iodomuth or salicylate of quinine in the ear as a disinfectant. Never pack any kind of powder into a discharging ear, as I have frequently seen. Numbers of mastoid cases may be traced to packing the ear with powders, and especially boracic acid (it cakes and prevents drainage), and I'll also add that hydrogen dioxide (a prevailing remedy) should never be used in a discharging ear unless it be the chronic kind with large perforation in the lower portion of the drum membrane. Should there be a denoid growth or hypertrophine tonsils, these should be removed. Any nasal trouble causing a post-nasal catarrh should receive appropriate treatment. Sometimes, however, it will be necessary—though seldom—to syringe the ear (to remove desiccated pus), then a solution of carbolic acid or very weak solution of formaldehyde, using a sterile syringe and boiled water. After syringing, the ear should be thoroughly dried and lightly powdered, as above stated. With these simple means and remedies the number of chronic cases of otorrhea with its serious consequences will be greatly lessened—comparatively almost blotted from the text-books, except those mastoid cases which sometimes happen before the drum membrane opens spontaneously, and these cases can frequently be prevented by anodynes and incising the drum if the case has progressed to supperation.

April 17th, 1901.

ACTINOMYCOSIS IN MAN—REPORT OF CASE, WITH SPECIAL REFERENCE TO TREATMENT.

By W. D. GAINES, M. D.,
LAFAYETTE, ALA.

Actinomycosis is a specific infectious disease usually chronic in its course, occurring in man and animals. It is caused by a growth of actinomyces in the tissues, origin of infection being from hay, grain, etc. Heretofore it has been considered a very rare disease. Langenbeck found actinomycosis in 1845 in an abscess with caries of the vertebræ in man. Bollinger published his cases in cattle in 1877. Dr. Belfield, of Chicago, was the first to make a study of the disease in cattle in this country—1883. Dr. Murphy, of Chicago, revorted the first case of actinomycosis in man published by an American author, in 1885.

Plate No. 1.

Plate No. 1 shows Hudson's case, involving tissues of the back and lungs, reported from this place in 1897, it being the first and only case that I know of reported from this State previous to this date. I give a brief report of his case:

Patient, a negro male, age 62; very muscular; a laborer among cattle and horses, having been accustomed to handling hay, fodder and grain, and sleeping on same at noon in summer. Had a running sore over right scapula several months before applying for treatment, with no fever, no cough and little pain. When seen he was put on local treatment of bichloride of mercury and iodide of potash internally. This was continued four or five months with apparent improvement in the beginning, but later grew worse, and presented numerous ulcerating points or sinuses, covering large part of right side and less of left, discharging a creamy, thin pus, without odor, containing the sulphur-like grains, which, under the microscope proved to be the actinomyces. The skin over the affected area was thick and indurated. Under ether, these sinuses were all scraped out with sharp spoon and injected with ten per cent. nitrate of silver, but the hemorrhage was quite free, and it was not satisfactorily done. Treatment was continued in 30-grain doses of iodide potash three times a day, with improvement for awhile, but later cough set in, the expectoration containing the streptothrix, and he continued to decline, and died about eighteen months after being first seen.

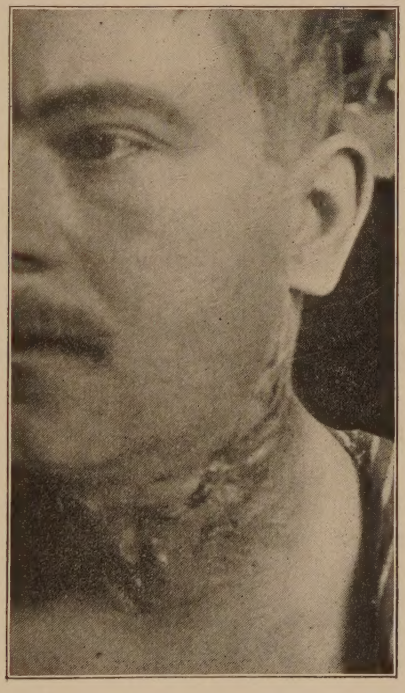


Plate No. 2.

Plate No. 2 shows author's case, report of which, with treatment, is the subject of this paper.

Robert T., white male, strong and robust, farmer, age 28, weight about 150 pounds. Came to my office about May 1st, 1900, complaining of an uncomfortable, tickling sensation in his throat, saying to me that he had had a piece of barley straw in his mouth, and he thought it had stuck into his throat or side of tongue, and was a little alarmed for fear he had swallowed it. I searched the mouth and throat carefully, but found nothing, so I gave him a mouth-wash prescription and directed him to report again if he had any further trouble. I saw nothing more of him for several weeks, when, to my surprise, he returned to my office almost unable to speak or swallow, for a very hard swelling under left side of tongue, posteriorly, and being slightly felt from outside of neck and under left jaw. It was very hard and had no fluctuation, and I concluded there was no pus, so did not attempt to lance at all, but treated locally and on general principles for such swellings where there is no pus. After a few days this gradually reduced until he was comfortable again.

He returned to my office in about a month to six weeks with the swelling again, but more on the outside of neck under left jaw, quite painful, but not so uncomfortable as before. It presented a swelling near the size of a guinea egg. This was treated locally with ether bath, followed by a good coating of tr. iodine every day for several days, when it reduced, became less painful. Patient went home, and I never saw him again for several weeks more, when, some time in October, he came back to me with the swelling increasing on outside of neck, inflamed, reddened and indurated some distance surrounding, having circulation of 100, with some fever. This time, under cocaine, I opened it freely. Quite a quantity of thin, creamy, odorless pus, with sulphur-like grains, escaped. This, with the history, being indicative of actinomycosis, I called Dr. Hudson's attention to the case, and we examined the pus under the microscope at once and found the "ray-fungus" present.

The patient was then put under ether, and the abscess cavity, with two or three sinuses leading in different directions, curetted thoroughly, washed out and firmly packed with iodoform gauze wrung out of a saturated solution of iodide potash. This packing was repeated every other day several times, and the cavity allowed to heal by healthy granulation. Iodide potash in five grain doses, increasing one grain each day, was given internally. The healing of this abscess cavity was followed by a number of others, until almost the whole of the left side of the neck had been involved, each one being treated like the first, curetted and packed with gauze wet in saturated solution

iodide potash. During two or three months' time I must have opened eight or ten in number, the last being about February 1st, 1901. Since that time he has appeared perfectly well, and even earlier than that the microscope failed to show any actinomyces. After the dose of iodide potash internally reached thirty grains, three times a day, without any iodism, it was continued in that dose for three or four weeks. It was then again increased until one ounce per day was taken, which was kept up from about the middle of December, 1900, to the middle of February, 1901, without any ill effect and but little sign of iodism, the patient gaining strength and flesh all during the time, weighing more now than ever before, and has returned to his usual farm work.

I want to impress the fact upon my readers that this disease is not so rare as heretofore supposed. Its supposed rarity comes from a lack of diagnosis. While all the cases reported in America up to January, 1899, are shown by Ruhrah, of Baltimore, in Annals of Surgery, 1899, to be only sixty-five, Porter, of Boston, in Boston Medical and Surgical Journal, September, 1900, reports ten cases, and Dr. Sawyers, of Iowa, reports seven cases in Journal of American Medical Association, of May 11th, 1901.

There have been possibly others reported since January, 1899, of which I do not know, but it is certainly not so rare as the profession would have us believe.

The treatment must be surgical and medical, and the only medical treatment of any avail is iodide of potassium, which is a specific, properly handled, combined with the necessary surgical attention.

Thomassen, of Utrecht, was the first to use this drug in treating cattle, in 1885, using six to ten grammes daily. Sawyers (Journal A. M. A., May 11, 1901), used fifteen minims of one per cent. solution of iodide potash injected into the indurated tissues with hypodermic syringe, with good results. As is seen from the above, I did not use this method of applying the iodide of potash to the involved tissues, but I am favorably impressed with its evident efficiency.

CASES FROM PRACTICE.

By Shelby C. Carson, M. D., A. M.,

GREENSBORO, ALA.

Practitioners usually receive more benefit from the experience of others than from text-books. It occurs to me that, for the past two years, an unusual number of interesting cases have fallen under my observation. Therefore I am happy to place some of them before my friends in the profession.

My thoughts have been much directed of late to malaria's marked

effect upon the kidney, and as a result I have come to the conclusion that if medicine can claim a hydra-headed monster, malaria can boast that disitnction. Besides, these heads have no manner of resemblance to each other.

My experience from 1878 to 1888 in a thoroughly malarious region of the State had, of necessity, given me come confidence in my ability to solve most of the problems presented for diagnosis by the "plasmodium malariae," but I must have lost my power in this respect while a resident of Jefferson county from 1888 to 1898. In July of last year (1900) there began to pass over the State, extending through Georgia, the Carolinas into Virginia, a wave of malaria more virulent in its character than was ever known in this region; nor did it exhaust itself until the frosts of November. Its multiform manifestations were surprising. The ordinary intermittents greatly predominated, but even these brought with them more pain and discomfort than customary, and were far more prone to frequent recurrences in spite of the judicious employment of quinine. While I had not seen a case of haematuria (yellow chills) in fifteen years, it was my misfortune to fall heir to four cases—three whites, one black—within six weeks. Of these one (white) died from uremic toxemia after the cessation of the hemorrhages and the jaundice. In two cases quinine was given at once—30 grain in 5-grain doses every two hours to one, and 40 grains in the same manner to another. One of these cases proved fatal, the other promptly recovered under the additional administration of large doses of iron. The remaining two were treated without quinine until the hemorrhages and fever ceased, then only tentative doses were employed. The effect of malaria upon the kidney in this disease is simply phenomenal.

I am so forcibly reminded here of the only case of "Filaria Hominis Sanguinis" that ever came under my observation that I cannot resist mentioning it. About three weeks ago while attending the third Pan-American Medical Congress in Havana, Cuba, I was making a tour of the various wards in Mercedes Hospital, and came upon this particular patient, a sailor. He repeatedly passed blood from the kidney, but there was an absence of paroxysmal pyrexia. This, with the presence of clylous urine, caused the microscope to be used on specimens of night urine when the worm, or rather several worms, could be readily detected.

This hospital will compare most favorably with any that I have visited in New York or London.

However, my main idea in writing this is to call attention to malaria as a cause of albuminuria. I was much astonished both at the frequency of its appearance, and the enormous quantities sometimes

found. Our memories often play us queer pranks. Sometimes an item of importance, carefully deposited in this great store house, will become either pushed aside or completely concealed by the gradual accumulation of material. The fact that malaria would produce albumin in the urine had entirely escaped my mind; and as a consequence I gave the gravest prognosis in one or two cases before I realized that its presence, even in large quantities, accompanied as it was with general anasarca dyspnea, and accelerated pulse, was not of the serious import, especially in the young, which we usually attach to it under other conditions. The first of these was a negro boy, twelve years of age. His face, abdomen and limbs were markedly dropsical, his scrotum distended, respirations labored, heart disturbed, and his urine loaded with albumin. He is now apparently in most excellent health. In another boy, thirteen years old, most of these symptoms were repeated —he became of an ashy hue—the least exertion would produce a distressing dyspnea, and the deposit of albumin was greater than I ever witnessed in any specimen. He now attends school regularly and shows no evidence of disease. Probably there were fifteen similar cases under my supervision during the summer and fall. They responded promptly to iron, quinine and arsenic in full doses. During this time a woman, twenty-three years old, who had been delivered of a dead foetus at term three months previously, presented herself for treatment, having nearly the same symptoms, and yet in spite of faithful attention she died within two months. This shows the difference between a true nephritis and the passing storm of a malarial attack.

The announcement that malaria is transmitted by anopheles has been ridiculed by some. Personally I accepted it as a fact at once, but I am much more prepared to believe it since my visit to the United States Experimental Station near Havana, where Surgeon Reed produced yellow fever at will through the bite of the culex fasciatus.

HERNIOTOMY AND APPENDECTOMY THROUGH THE SAME OPENING.

A right inguinal hernia requiring the removal of the appendix during an operation for its radical cure—while not unique—is, to say the least, rather rare.

It is true that in the female, gynecologists are frequently called upon to meet a similar emergency in that the appendix becomes attached to a diseased ovary. Such a case comes to mind now. Some six years ago while assisting Dr. Wyat Heflin, of Birmingham, in the removal of a pus tube the appendix had also to be amputated. But in the male one would not anticipate such a complication as prevailed in the case under consideration. About the middle of last October an intelligent mulatto, age fifty-eight, came to my office, and stated

that he was a resident of Uniontown, that he had a large hernia of twelve years standing, that, of late, it had become subject to rather frequent strangulations in spite of a truss, and that he had been advised to place himself under my care for a radical cure. An examination revealed quite a formidable right inguinal tumor. My experience assured me that the constant pressure and friction of a truss for a number of years had produced unfavorable alterations in the sac; yet it had been my good fortune so recently—in a number of cases—to be with Mr. Barker, of the London University Hospital, whose reputation in this line is world-wide, that I was not deterred from appointing a time for the operation. In the American Text-Book of Surgery, page 773, there is a reference to Barker's own operation, but in all the cases that I witnessed he selected Bassini's.

He frequently operated under local anesthesia with Eucaine B., and under all circumstances he had his patient wrapped from chin to foot in wool in order to avoid shock.

On October 17th, the patient having been thoroughly prepared the night before, the operation was done under chloroform narcosis. Dr. J. R. Harris gave the anesthetic, and Dr. Edward Peterson, of the Post-graduate Hospital, New York, who was on a visit to his old home, kindly acted as principal. The sac was troublesome from the beginning, being of excessive size and tenaciously adherent. The internal ring was so patulous that the cecum had passed into the canal. In the shape of a horse shoe, and attached through its whole extent to the hernial sac was the appendix. Of necessity then this was tied off, removed, the remaining portion inverted, and the pouch string suture made to draw the peritoneum over it—then the bowel was returned to the abdominal cavity, and the regular steps of the operation completed. Recovery was rapid and uneventful. There existed a condition of chronic inflammation in the appendix and this complication was the cause of the frequent painful attacks of which the patient complained.

In the "International Text-Book of Surgery," page 487, the statement is made that "The cecum may be found in all forms of hernia, though it is most often seen in right inguinal. In rare cases it has been found in left inguinal, and even in left femoral hernia (one of the writers has operated upon a case in which the appendix occupied the sac of a left inguinal hernia). This form (cecel) of hernia is more frequent than is generally supposed. Of 470 cases operated upon by one of the writers the cecum was found in fourteen cases. The cecum may be found either alone or accompanied by the vermiform appendix. The appendix not infrequently becomes adherent. If free, the better plan is to restore it to the cavity, but if extensive adhesions are present it may be wise to remove it. The writer has done this in five cases without harm."

ATRESIA VAGINAE FOLLOWING TYPHOID FEVER.

After reading Dr. Morris's interesting paper on Caesarean Section, in the March number of this journal, I concluded to mention a case of atresia vaginae, which is of interest only on account of its cause. In Dr. Morris's case the dense bands were doubtless the result of escharotics, but in the following case it is difficult to come to any definite conclusion.

About eighteen months ago I visited a negro woman who had just arrived from a neighboring city, with the history and clinical symptoms of typhoid fever. In fact her physician at home had so pronounced it, and my two visits made the same impression upon my mind. There was certainly nothing to draw my attention to the pelvic organs. Some months after she recovered she came to my office and stated that she was confined to her bed, probably three weeks after I last saw her, that she then noticed some unusual condition of the vagina, and had now come to see about it. To my astonishment there was a complete closure—so far as the sense of sight and touch could discover—of the vagina. She said, however, that she menstruated regularly. She was the mother of two children—the youngest about two years of age. She disclaims any venereal disease, any unusual discharge—in fact had no symptoms to attract her notice to this region. The uterus could be distinctly made out through the rectum. She promised to submit to an operation for a cure, but three months ago was in the same condition.

INFLUENZA.*

By W. W. Harper, M. D.,

SELMA, ALA.

Influenza is an acute infectious disease. According to †Peter Eade it "is primarily a local parasitic disease of the mouth, throat and bronchial tubes due to the bacillus of Pfeiffer." These bacilli are found in the sputa and are highly infectious—the disease in epidemic form being rapidly conveyed from one locality to another.

The symptoms that I shall describe are those that have been observed by me during the recent epidemic. While the bacilli seem to have the entire human economy for their sphere of activity, there are three systems to which they send a surplus of their manufactured products—toxins. These systems are:

1. Nervous.
2. Respiratory.
3. Gastro-intestinal.

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*Read before the State Medical Association of Alabama April; 1901.
†Monthly Cyclopædia.

In the nervous type, the onset is usually sudden with a chill and a marked elevation of temperature: there is intense headache and pains in the back and limbs. In a few days the temperature subsides and the pains disappear. The patient thinks he ought to be well, but is impressed with his weakness. The prostration is out of all proportion to the severity and duration of the attack. This depression persists for quite a while after the patient is apparently well.

In the respiratory form, there is often the initial chill and rise of fever with symptoms of an acute coryza, intense sore throat, and some bronchitis. With the exception of a supra-orbital pain there is not much aching.

Again, the brunt of the poison is borne by the gastro-intestinal tract. Here we have every grade of gastric irritation from a simple gastralgia to the most intense nausea and vomiting. I have recently had a case who vomited for five consecutive days and nights from twenty to thirty times in the twenty-four hours. The stomach refused absolutely to retain one thing and the patient was brought to the stage of collapse before relief was obtained. There was no fever. The poison may affect the intestines, giving a simple diarrhoea or dysentery. In all forms the prostration is out of all proportion to gross lesions presented. Unfortunately the hoi polloi under estimate the gravity of grip, and when attacked continue at their business until their energies have been sapped and their resistive powers are gone; or they leave their beds before their vital forces have been fully restored to power. As a result, relapses are frequent and more severe than the initial attack. †Forcheirmer calls attention to the fact, that in children the cough of influenza very closely simulates that of whooping cough. My experience in a limited number of cases bears out this statement. There is probably no other disease with so many complications and sequelae. Pneumonia and pleurisy are the most constant. Grippal pneumonia is noted for its indistinct physical signs, irregular course, and particularly fatal issue. In children, the pneumonia is generally lobular and runs a very severe course; the pleurisy usually becomes purulent. During the past epidemic, I have seen a number of cases of aphthous stmatitis among children—also cases of enlargement of the cervical glands. These glands do not, as a rule, break down unless the subjects have a strumous diathesis. Another very serious and common complication in children is suppurative otitis media and mastoid involvement. Recently I have seen two cases of acute mania during an influenzal attack. Both cases occurred in old asthmatics. The first case was restless and delirious for several days

†Progressive Medicine.

preceding the mania manifestations. During one of his spells, he arose from his bed, dressed himself, went to his store, transacted some business, came home and in twenty hours, was a corpse. The other case went into a deep sleep which lasted for several days. She could be awakened, but would at once go to sleep again. After several days of sleep, she was seized with acute mania. She fully recovered her mind in seven to ten days. I have seen one marked case of acute thyroiditis complicating grip. The sequelae of grip are many. During the past ten years a very large per cent of the cases of consumption give an antecedent history of influenza. Again, patients present themselves with the following history: Marked exhaustion after slight efforts, dyspepsia, headache and ocular disturbance. An examination shows the grip toxin to have crippled the heart or kidney. A recent editorial in the Therapeutic Gazette calls attention to the very great increase of heart disease as the result of grip, and the secular press is daily recording sudden deaths, following an attack of influenza. A few weeks ago, I was consulted by a lady for a tremor of the hand. A diagnosis of disseminated spinal sclerosis was made. She dated her trouble from an attack of grip.

Treatment. Let there be reported a few cases of yellow fever and the people are panic stricken and flee to some city of refuge, but influenza has no terrors for them, and yet it is a greater foe, for, while yellow fever has slain its thousands, influenza has slain its tens of thousands. It is a disease not indigenous to our soil and I think it is high time that our sanitarians were putting forth more vigorous efforts to suppress its existence and effect its banishment. If we are to accept the views of bacteriologists that it is at first a local parastic disease of the throat and the mouth, I believe its spread can be lessened by the free use of antiseptic sprays and mouth washes; and by instructing patients to spit into vessels containing a germicide, or into cloths that can be immediately burned. When called to a case, the patient should be urged to go to bed and remain there until entirely cured. The bowels should be freely opened with a mercurial purge and the following alkaline diuretic given to increase the elimination of the poison:

Kalii cit. grain 20.
Spts. ether. nit, gr. 60.
Liq. ammon. aoet. ℥ss.
Every three to four hours
For the pain I give the following:
Codein sulph. gr. 1.
Salol gr. 4. Every three to four hours.

The codein neither constipates nor nauseates. Where the coryza symptoms predominate, I give:

Codiae sulph. gr. 1.

Phenacetine gr. 2 to 3.

Camphor gr. 1.

Ext. Belladon. gr. 1-8. Every three to four hours.

Most writers condemn the use of opiates and their indiscriminate use is to be avoided, but where there is much pain their use is indispensable. For the harassing cough nothing is superior to codein in 1-2 to 1 grain doses. For the intense sore throat it is recommended that it be douched by a fountain syringe with a quart of warm water, in which is dissolved two teaspoonfuls of chlorate of potash and five drops of oil of peppermint. To this douching can be added inhalations of tinct. benzoin co. In children, the naso-pharynx should be frequently sprayed with Dobells solution, bearing in mind the peculiar tendency of grip inflammation to extend up the eustachian tubes and produce suppuration in the middle ear and the mastoid. ‡For the supra orbital pain, due to congestion of the frontal sinuses, drachm doses or ergot every four hours is the remedy par excellence. Grip pneumonia calls for free use of oxygen and the unstinted use of alcohol. The stomatitis seen in children is best treated by mouth washes of hydrogen dioxide and the application of lunar caustic to the ulcers. The diet should be liquid and the feedings given at regular intervals.

As influenza is a disease attended with great nervous depression, strychnia should be given early and continued for a week after the attack is over. The writer gives every two to four hours 1-60 to 1-30 of a grain.

THE PHYSICIAN AND HIS STATUS—PRESENT AND FUTURE.

By R. C. Bankston, M. D.

BIRMINGHAM, ALA.

Let's consider this subject from its broadest application to humanity, grasp the intricacies, which, like winding pathways, stretch in a labyrinthine network before the mind. The highest intelligence, the noblest genius of contemplation is necessary to bring out the true value of medicine as a science, and the position of the physician as a benefactor of humanity. I am rejoiced to see the doctor, earnestly endeavoring to combat the prejudices of the centuries and the ignorant superstitions which have mitigated against advancement, that will elevate

‡Monthly Cyclopædia.

his calling to the highest pinnacle of comparative excellence we are proud to accord you, distinction at the very head of human affairs.

What a proud distinction should the doctor enjoy! When mankind sees his efforts to uplift the race, and with due appreciation says "Well done, noble benefactor of humanity." What should be the characteristics of the physician?

He should be a man of great learning, of high moral rectitude, of fine ideas, of good judgment and discernment, elevated principles and high motives. How can that character be attained? Through that great incentive to aim and aspiration, inspiring confidence and awakening zeal and ardor—education—full, complete, higher, until the best talent of the world shall be enlisted in the ranks of medical knowledge, guaranteeing a scientific attainment and a cultivation which will enable the physician to accomplish the greatest good to humanity, with which no fact nor theory now advanced can compare. He could demonstrate to the world the true elements underlying life, which are ample, as preparation, for the upbuilding of a great wide superstructure of principle so grand and varied in its proportions of knowledge that all intelligence would proclaim it the true source of every information concerning the principles and true motives of life, than which all other sources would be of dwarfed proportion, and would yield supremacy, granted by the power of his exalted position at the head of science and humanity.

How has he proven himself a benefactor to humanity? By grappling with the foes which destroy life and overcoming them. In ancient times, before man was a community dweller, his occupation and roving proclivities enabled him to evade germs, by moving from a locality where sickness prevailed. When increased population and change in habit and environment occurred and man began to dwell in cities, towns and communities, diseases incident to surroundings began to demonstrate themselves, and other diseases incident to abuse and degeneration became manifest. With the multiplicity of people and the increase of disease, with the injuries to the body resulting from wounds and poisons, came the demand for relief. Reasoning from these premises, we can infer that the doctor was evolved, from early necessity, and the calling is quite likely the oldest profession in the world, and the doctor has been ministering to the afflicted of humanity ever since. Time has progressed, changes have occurred, conditions have varied, and the doctor has, by study and deep investigation, kept abreast of the march of progress, through all its varied meanderings, and medicine, as a science, is nearer the exact in nature than any other. To mention the achievements of the doctor in the field of medicine, of sanitation, of biology, physiology, genæcology, bacteriology, hygiene, chemistry, etc., would be to give in detail a history of the world and man, from

his earliest inception, for in the present perfection of medical science we attest to the worth of numerous investigators who have demonstrated causes and proposed measures for relief which have usually been successful. We believe it appropriate to take up and discuss some of the good work done by the doctor in the interest of humanity, therefore I will call your attention briefly to some things he has accomplished in Pathology. He has demonstrated the law of diseases (where there is a disturbance of relation for function, or an interference with the quality and quantity of the fluids of the body, through germ invasion, depreciation or virility, a normal health standard is lowered and disease manifestation results. The various morbific agents, causing special pathologic conditions, will each be considered briefly within the sphere of this article. In a brief, general way we will note some of the achievements in Physiology, or the laws of health. In this field research has been wide, and has successfully demonstrated facts relative to health which will have important bearing on Biology. In consideration of the forces which maintain and perpetuate life through Biology, a vast fund of information has been accumulated by the physician, which has unraveled mystery and gives the key to continuity for pepetuation of life.

In Bacteriology most especially has much important work been done; innumerable kinds and varieties have been discovered. some of which cannot live without oxygen, and some cannot live in an oxygen medium, and some can exist as well without as with it. With bacterial life sustained under any and all conditions, what a multiple task it will be to exterminate them. Some are harmless as the saphrophytes of the air, but most of them are virulent, while all of them need an organic pabulum for continuance. The aerobic bacteria are those which grow in oxygen, typical of which are bacillus subtilis, and bacillus aerophilus. These forms will not grow except in an oxygen media, while the staphylococci of suppuration, the bacilli of typhoid fever and pneumonia, anthrax and the cholera bacillus grow with or without oxygen. They belong to the optional class, while the bacillus of tetanus, bacillus muscoides, and several other varieties of anaerabic bacteria will not grow where there is oxygen. The optional varieties which can and do grow as well in one media as in another, are very numerous. The only definite relation they all seem to have in common is their need of organic matter for nourishment. Of course a certain amount of moisture must invariably be present, though some kinds will thrive in little moisture, and others need a liquid media. Some of the bacteria seem to be interdependent, and thrive best where two or more varieties are present, hence we can conceive the explanation of two or more kinds being found in a part where the pathologic condition is only due to one kind, which seem to have its powers increased, when associated with

other kinds, while with yet other kinds the association will modify intensity of manifestation, or nullify it. It is not our intention to dwell at length upon bacteria, but to allude to them as being the field where the great work of the present physician will have to be pushed—in the interest of humanity. To study the kinds and their relations, their combinations and interdependence, the media best suited to each and all, the temperature, favoring or retarding their growth, the effect of light and air, and other modifiers—all these factors and conditions are of importance to know, where bacteriology is studied, while the various kinds of bacteria are interesting to the scientific investigator, the pathogenic kinds are of most interest to the physician, while the work done by some kinds is of a positive benefit to man.

The limits and purport of the paper will not admit of further allusion to the great work done in this field of investigation by the physician in behalf of humanity. With a knowledge of bacteriology antiseptis and the misroscope, the physician is prepared to do a great work for humanity by ridding life of some of its pests and suffering.

Let's now allude to some of the good results he has accomplished through quarantine and isolation. The only subjects of more importance to humanity than quarantine are sanitation and prevention. It is always apropos to speak of quarantine, because with our present state of public affairs existing, and under present general conditions, we know not at what time we may be called to battle with some insidious disease, which, as a foe, has generated elsewhere and has inadvertently been allowed to enter usually at some of the ports, there to find conditions right for reception, propagation and spread, gathering strength and potency and spreading from that center to various contiguous country, where conditions would favor reception, with the elements at hand for continuance and further manifestation, its consequence would be disastrous. With a large seacoast and frontier line to watch, the problem of a thorough, practical quarantine is stupendous. That it is necessary, needs no assertion, and when exercised earnestly as an inalienable right, with a proper degree of interest aroused through apprehension, when its mandate is totally exclusive, that no goods, chattels nor passenger traffic can come near our coast from an infected district; then may we rely upon the utility of quarantine to absolutely protect us from the potentials ofdiseases foreign to our country—which if brought to us at a favorable season spread and infect all. The doctor recognizes the principle of quarantine as correct, and has advised and urged it upon our States and general government, and where it has been applied, with any degree of care, the result has fully borne out the most hopeful expectations of its efficiency and reliability as a safeguard. Through the practice of a fairly efficient quarantine

during the past ten years the small and local epidemics of the transmissible diseases have been of such mild type, with peculiarities of a nondescript character, that their diagnosis has been disputed and their effects very light, compared with the ravages of other days, before the physician began to expound the doctrine of absolute safety through efficient quarantine and sanitation.

We will take up and discuss sanitation briefly, because of its relation to the subject. All filth, be it solid or liquid, is pabulum for bacterial growth. The doctor has ascertained the condition and has advised and urged the necessity of absolute cleanliness of all environment, if the germs of disease are to be excluded therefrom. Then we may have chemical poisons generated, emanating from bad sanitation of cities and thickly populated communities, by which means a district may become auto-infectious, poisoning itself, as it were, and generating infection, which can radiate from that center and, like the ripples from a disturbing stone thrown upon still water, may radiate, gathering force from motion, until a wide area becomes involved.

We will not allude to the special methods of sanitary measures devised to meet the needs of any certain place or locality, but we speak of it as a measure of the greatest importance to the healthfulness of a people, which has been promulgated, and urged by the physician for many years as a most necessary adjunct towards preserving health and preventing diseases. Sanitation is likely the most apparent of any of the boons of the doctor to humanity, teaching the common rules to observe to keep environment freed from the causes producing diseases or morbid effect.

I would be glad to continue the topic of quarantine and sanitation at more length, as their importance, as a safeguard and preventive, cannot be too fully appreciated, but in this, as in our other allusions, we must be brief, and only show an infinite amount of the good work of the physician for his fellow-man and all humanity. Before leaving the topic of quarantine, I think it would be a wise proceeding if the governments of the countries holding trade relations with one another would make a clause in their reciprocal treaties that no vessel will be cleared from an infected port until said vessel and cargo, passengers, etc, had been detained at some non-infected point near the coast of such country, where the vessel, cargo and people could be reliably and thoroughly exempted from all infection and possible danger to others in another country. If trade relations must continue and barter go on, then, in the interest of humanity, the physicians of an infected country should protest against the departure of a vessel from that country until the microscopic and other tests reveal the fact that all germs are eradicated, and as a focus of infection the vessel is free. Quarantine, as now gen-

erally applied, takes the dilemma by the other end, and makes objective quarantine necessary. Treaties could be formed which would take it by the horns and make the most efficient of all prevention in subjective quarantine, or a country where infection exists shall not allow the exit of any possibility of infection therefrom, which must be far superior to any quarantine measures that now or ever have been applied. Let me assert that local quarantine is a failure. It simply discommodes, without adequate compensating protection. Even State quarantine cannot be efficiently enforced. The dangerous precedent of shot-gun quarantine with its narrow restrictions, actuated by fear, should never become possible. Our broad, liberal, intelligent Congress should pass actts authorizing a commission of qualified physicians, to study the subject in all its bearings, and perfect a plan that would be practical, liberal, safe, thorough, certain in effect for adoption as law, that could be rendered applicable at any point in our country, making concurrent laws, authorizing enforcement and providing suitable penalties for violation, commensurate with the danger apprehended.

If all the feats of prowess and all the deeds of valor, if all acts of heroism done in battle or in other fields were combined, they would not equal in value to mankind the gift of one obscure doctor to humanity when the immortal Jenner conceived and applied the process of vaccination as the antidote and preventive to that horrible scourge variola, which at that period was of such a frightful character that it would almost depopulate a country when it had obtained a foothold. At present the physician has perfected and applied the process of vaccination until the smallpox prevalent during the past few years is so attenuated and modified as to be nowise comparable with what it was. It is only a question of a few years, comparatively, when humanity will have to offer her praises to the physician for eliminating this and other infections from among the concomitants of life, when he will free all environment of all germs and other elements of disease, when humanity will know the great self-sacrifice to her cause, that the noble-minded self-denying, great-hearted physicians had undertaken, and after a combat lasting through successive generations, which in turn have taken up the work of its predecessors, at last the end is reached, the task fulfilled, the work of eradication accomplished, no germ left to threaten health, to mar happiness, to cause distress and sickness—all shall be gone and mankind made thankful.

While working to destroy the germs that would destroy life, the physician has had to grapple with other problems of equal seriousness to mankind and, and possibly a greater menace to the life of humanity. The degeneracies of vitality, as communicating transmissible diseases, and vices. The diseases, vices and degeneracies of the parent descend

unto the children, even to the third and fourth generations. What a horrible condition of fact is contained in that sentence! Yet it is as true as life itself, and confronts us as a problem of the present. Whom but the physician is awakening humanity to a realization of the calamities befalling posterity through ignorance of those primal physiological facts which must be observed that our generation should not suffer pain nor posterity be blemished with the consequences of past vices and moral transgressions of previous generations; the preseentation of nature's laws governing present and future generations of life, for the guidance of humanity in their conduct by the physician, has accomplished better results than any other teachings through enlightenment in the principles of biology and function for relation and continuity, the people of the present are living the highest grade of life that has been exampled since record has been kept; what factors sustain it? Why the average of human life has risen within the past century about 20 per cent., which, every element considered, is a most wonderful showing. What possibilities can be predicted from this beginning, that within the next three centuries the average of human expectancy will rise to one hundred years. With germs eliminated from environment and degeneracy stamped out, man will perfect a bodily vigor which will give a force equal to one hundred years of active life, which will again be a victory for the great champion of human interest, the physician, whose ever watchful care and never ceasing toil are all expended in the interest of humanity, that life may be more perfect and enduring.

While trying to demonstrate some of the blessings of the physician to humanity, we might fairly comment upon the weakness of human judgment and the inconsistency of mankind through degeneracy, until to-day we have asylums full of insanes, others filled with the noncompetent, or idiotic, and our jails are filled with criminals—all being forms of degeneracy coming to our generation through heredity, which is an expectable condition transmitted from parent to child, and can be either progressive or retrogressive, determined by modifying circumstances. The greatest modifier acting favorably to avert degenerate progress through the course of the generations is the physician. Whom but the physician has attempted in a scientific way to turn the polluted stream of vitality into clean and appropriate channels? He is urging the necessity of wise legislation, governing the laws of heredity through sexual relations, that reproduction of living beings may not be left to chance, nor modified by the degenerate proclivities of the vicious criminal classes. While we admit freedom of action should be accorded all humanity in its broad liberal sense, yet posterity should be protected from the degenerate element, which can be accomplished by the phy-

sician, who must conduct an educative campaign in the interest of an improved posterity, advocating measures limiting the parents of the coming generations to those people who are known to be free from taints, blemishes, and degeneracies which would militate against the perfectability of coming humanity. A teaching that will tear away barriers of egotism or class privilege and remove the necessity for caste distinction, uplifting to the highest pinnacle all humanity, which will give universal suffrage and common interest in all that pertains to temporal life, and make all desires harmonious for spiritual future, would be of incalculable good. I would like to expand and touch on the beneficence of educating humanity as a potency for developing every faculty, increasing ability to produce and intelligence to provide. Such expansion is not relevant, therefore we will restrict remarks to their relation to the physician's sphere in human progress and development in physical, sociologic and psychiatric propositions, which, in their measure, represent the highest type of human advancement.

Oh! humanity, what a debt of eternal gratitude do you owe your physicians. The greatest power in all the world is human reason, which has been the basis for the great achievements of life. Its acme has not yet been attained. It will put forth effort and accomplish purpose superior in benefit to humanity, than any now known. The physician, inspired by his knowledge, will put forth greater effort and do yet more to relieve disease and distress. He is destined to play a most important role in the world's affairs. While great generals are fighting their battles and are crowned with the evidences of victory; while our jurists and legislators are contending in the arena of public events, striving for the principles most dear and right in the continuous struggle for life, the physician protects them from common, virile germ enemies, which are more formidable as a foe than are all the armies of all the nations of the entire world.

Eradicate germs, and the greatest victory will have been scored for humanity by the physician that has ever been chronicled. One of the highest functions of life is self-sacrifice. What nobler motive to the uplifting of humanity could inspire the physician than the sacrifice of individualism to the larger altruism of self in humanity, that the cause of perfectability in future generations may progress, through cultivation of the present people of the world? When properly acknowledged as the greatest benefactor of humanity, the physician will reflect an intellectual light upon surroundings that will be so luminous that his luster will shine forth superior to any other intelligence that has ever shone to brighten the mind of humanity. His broad intellect will replace superstitious ignorance with the science of eternal truth, which

will forever consecrate the triumph of educated mind over the crude in nature, that enlightenment may advance through the shadows of the ages and triumphant humanity rejoice at the outcome.

A doctor, alone in his study one day,
Sat, musing on life's conditions.
What can I do for humanity's weal,
Or what can I say that will make man feel
The weight, alone which he must bear,
In furtherance of humanity's mission?
I can teach physiology or laws of function,
Can suggest hygiene without presumption.
As important elements to know,
The biology of vital forces,
Or chemistry of nature's courses
For continuance of human form,
The best in nature for human good,
Is information, if you would
Be prepared for best results.
In any line of world events,
That man may reach a higher level
And there pour forth his heart to heaven.
God bless the doctor for the work he's done,
And bless him for the race he's run
In man's behalf, with the deadly germ.
He has conquered germs and other foes,
He has faithfully worked on our other woes,
And in other fields, triumphant goes
To wage the fight for humanity.

THE WIDAL REACTION.*

By Edgar Allen Jones, A. B., M. D.,

BIRMINGHAM, ALA.,

Member Medical Association of State of Alabama, Professor Pathology Birmingham Medical College, etc.

To the person who studies the mechanism, as it were, of immunity, immunization, and cure, in infectious diseases, nothing is more interesting than the consideration of those substances occurring within the bodily fluids of immune animals which are included by Behring under the term "Anti-bodies." The most important of these, according to Levy and Keemperer (1), are:

*Read before the Medical Association of the State of Alabama, Selma, April 15-18, 1901.

1. Alexins (Buchner) Bactericidal substances.
2. Lysins (Pfeiffer) Lysogenic substances.
3. Agglutinins (Gruber) Agglutinating substances.
4. Antitoxins.

Gruber discovered that in the blood-serum of animals immune to cholera, typhoid fever, coli-infection, etc., there was a substance which was capable of causing the clumping—agglutination—of the bacteria causing the disease when the serum and the bacteria were brought in contact. Widal applied Gruber's discovery, which had been used only as an interesting laboratory experiment, to the diagnosis of typhoid infection, and to him we are indebted for one of the most important discoveries of modern clinical diagnosis.

Dr. Wyatt Johnston, of Canada, has done a large amount of original work in America with this reaction, so that now his name is frequently associated with Widal and Gruber in the discussion of the subject.

The time at which the reaction develops is one of the most important points to be considered in arriving at a knowledge of its value. Widal and Sicard (2) hold that the reaction usually occurs on the first day of infection, but the statistics of other observers that I have consulted do not agree with this statement. Of 219 cases giving positive reactions out of 230 cases examined by McFarland and Anders, (3), 128 gave the reaction prior to the appearance of the rose spots, or before the eighth day of the disease; thirty-six reacted during the second week; forty-five between the seventeenth and twenty-first day of the disease; eight not until the twenty-fifth day, and two as late as the twenty-eighth day. (It must be noted, however, that in some of these cases the blood was not examined until the day mentioned, so that the reaction might have been present much earlier than it is shown in the statistics). Kohler (4) examined sixty-two cases. The earlier reaction was noted on the third day. Three of his cases did not show the reaction until the ninety-seventh day. Cave (5) reports the reaction in relapses as being intensely developed on the second day.

Is the reaction specific, and is it present in every case of typhoid fever? Stengel and Kneass (6) have tabulated 2,392 cases of typhoid fever, in which the reaction was positive in 2,283, and negative in 109; also 1,387 cases of non-typhoid in which twenty-two reacted positively and 1,365 negatively. The results show:

Reactions in typhoid cases, 95.5 per cent.

No reactions in non-typhoid cases, 98.4 per cent.

Correct results in, 96.5 per cent.

Incorrect results in, 3.5 per cent.

A. C. Abbot (7) in a collection of records of Widal reactions carried

out in 4,154 cases, found that the error had been 2.8 per cent. Cave (5) in a series of thirty-two cases, reports the reaction present in every one. He has never obtained the reaction except in actual or recent typhoid. Horton-Smith (8) reports the results of Widal examinations in 546 cases. In over 200 the subsequent course proved that they were not typhoid fever, and in only one of these was a positive reaction obtained. It was discovered after the death of this patient, that she had had typhoid fever four monhs before entering the hospital. Horton-Smith states that in about 3 per cent. of all his typhoid cases the reaction never appears, though he does not state the number of tests made, nor the length of time his cases were observed.

Persistance of the reaction. In a series of thirty cases examined by McFarland (3) the latest certainly positive reaction occurred after eight years.

One objection, already mentioned, to the use of Widal's reaction in typhoid fever is that it sometimes occurs in cases which are undoubtedly not typhoid. The normal sera of various animals possesses the agglutinative power in varying degrees of strength. The sera of some animals will agglutinate typhoid bacilli in a dilution of 1:40. A few cases have been reported in which normal human serum has caused the reaction, in as high a dilution as 1:10. Such cases as these, however, are exceptional. In all cases where the dilution has been sufficiently great no such results are obtained. The technic is of great importance. The first point to be considered is the dilution of the serum. Nearly all reactions are now observed by means of the microscope, and only a small quantity of blood is required for each examination. Many methods of collecting the blood and diluting it or the serum have been used. Some of them are: the collection of one drop of blood on a piece of paper, or tinfoil, and allowing it to dry; collecting the blood in tubes and allowing it to coagulate and expel the serum; diluting the blood in a fresh condition with blood-counting pipet, or variously devised pipets. The disadvantage of the dried-blood methods is the inaccuracy of the dilution, as it can at best be only approximately accurate. A serious fault with the dilution of the fresh blood is the presence of the corpuscles. A device which is quite simple, which was shown me by Dr. Lupton, of Johns Hopkins, avoids both of these troubles. It is easily made in a minute or two by anyone who can get a suitable piece of glass tubing, and a bunsen flame, or alcohol lamp. The device furnishes a chamber in which the blood coagulates; a pipet to measure the serum from the coagulation chamber; and also a pipet for measuring the diluting fluid. The two pipets are of the same diameter, hence the drops of fluid which they make will be of the same volume.

The culture should be young, and actiely motile. It is best obtained by growth on agar-agar for 18-24 hours. Older cultures will do if young ones are not available.

The following is the technic followed by me and taught to my students: Take one loopful of the growth on agar-agar of 18-24 hours old typhoid culture, and distribute thoroughly in 10-15 drops of sterile bouillon in testtube or watch glass. Experience teaches just how much cloudiness of the bouillon is necessary in order to procure good separation of the bacilli. A hanging-drops of this mixture is now observed to ascertain whether the germs are well distributed and active The dilution of the serum is the next step. First, one drop of serum is allowed to run from the coagulation chamber into a clean test-tube, and four drops of clean water are added from the diluting pipet; this gives a dilution of 1:5. One loopful of this serum-mixture is now added to one loopful of the bouillon mixture of bacilli, giving a dilution of the serum of 1:10. This mixture is examined in hanging drops. Second, to the tube containing the serum diluted 1:5, twenty drops of water are added, making a dilution of 1:25. One loopful of this is mixed with one loopful of the bouillon mixture of bacilli, giving a dilution of 1:50. It is customary to observe the dilution of 1:10 for fifteen to twenty minutes; the higher dilution is observed for one hour.

In order that a positive reaction may be reported it is necessary that the bacilli cease moving and agglutinate. Cessation of movements alone, or clumping alone, justify only a "suggestive" report.

It is the general concensus of opinion that the serum should be diluted at least 1:40 or 1:50.

It seems probable that the reaction will never become very popular among physicians outside the hospitals or large cities affording clinical laboratories; for, while the technic is not difficult, it requires a certain amount of laboratory training, and also a fairly well equipped laboratory.

I can do no better, in giving the conclusions as to the value of the Widal Reaction in typhoid fever than to quote the deductions of McFarland and Anders:

1. "The disease is not to be excluded on account of the absence of a positive Widal reaction, since genuine cases have been met with in which a negative result had been obtained throughout.

2. "All cases that react positively are to be regarded as typhoid fever, until a thorough bacteriologic examination fails to reveal typhoid bacilli anywhere in the body, as cases occur in which the usual enteric lesions are entirely wanting.

3. "Taken singly, the sero-reaction is the most trustworthy indication of typhoid fever.

4. "Although not an early diagnostic symptom, it nevertheless serves to complete the diagnosis in the great majority of cases at the earliest date possible.

5. "Since the sero-reaction may be long delayed, and very exceptionally absent throughout, it cannot solely be relied upon for therapeutic purposes.

6. "Previous attacks of typhoid fever, within one or two to three years, render the test valueless.

7. "In order to secure accurate results, the technic is to be carried forward by a trained bacteriologist."

REFERENCES.

1. Clinical Bacteriology, Levy-Klemperer, 1900.
2. Pathogenic Bacteria, McFarland, III. Ed., 1900.
3. Phila. Medical Journal, Vol. III. Nos. 14 and 15.
4. Dentsches archiv for Klinisch Medicin, Bd. 67, Heft 3 u 4.
5. Edinburg Med. Journal, August, 1899.
6. American Year Book Med. and Surg., 1898.
7. American Year Book Med. and Surg., 1900.
8. Lancet, April 14, 1900.

EXTRACT OF RED BONE MARROW IN THE TREATMENT OF ANEMIA.

Case: Pernicious Anemia.

Blood count: 800,000 red; 4,000 white corpuscles.

Treatment: Extract of Red Bone Marrow and Arsenic.

First two weeks: 1,600,000 red cells; 4,300, white cells.

Second two weeks: 3,175,000 red cells; 3,400 white cells.

Third two weeks: 4,750,000 red cells; 4,000 white cells.

Patient continues to improve, feeling better and stronger than ever.

The Extract of Red Bone Marrow and Arsenic were given well diluted with cold water.

Physicians would get better results from the use of pepsin, Pancreatin, Thyroids, Suprarenal Capsules and other remedies of animal origin if they would, when prescribing, specify the Armour Products, because the preparations emanating from the Armour Laboratory are made from absolutely fresh raw material—material that is put into process of manufacture before it has had any opportunity to become tainted. There is always danger of ptomaines in goods made from glands or membranes that have been shipped long distances and subjected to exposure due to delays. Another good reason for specifying the Armour Preparation is—they are pure, and may be relied upon in all cases where such articles are indicated.

Selected Articles.

THE USE AND ABUSE OF ANESTHETICS.

By Alfred Roulet, M. D.,

st. louis.

In no line of surgical work are correct methods of greater importance than in the administration of anesthetics. The position of anesthetist is always one of considerable responsibility. He it is who carries the patient to the borderland between life and death and holds him there while the surgeon does his work. He must not only understand the nature and normal action of the anesthetic, but he must be able to recognize instantly the first signs of danger and be ready to meet any emergency promptly and effectively. Coolness and presence of mind are absolutely essential to a good anesthetist, while rashness or timidity are as dangerous as carelessness or bad judgment. Any of these faults may cause the operator the greatest worry and annoyance. The operation may be constantly interrupted from imperfect anesthesia or the patient may be exposed to the most imminent danger from too profound narcosis.

To the anesthetist should fall the responsibility of the selection of the anesthetic and the immediate preparation of the patient. Of the various anesthetics employed, chloroform and ether are the most generally useful; nitrous oxide is safer but is impracticable for prolonged operations. Of the innumerable anesthetic mixtures devised for one purpose or another, none have been proven, clinically, to possess the slightest advantage over ether or chloroform, either in safety or ease of administration, and, in cases of emergency, are much more difficult to obtain.

In selecting an anesthetic the general rule is that ether shall be given when the heart is diseased, and chloroform when the lungs or kidneys are affected. My practice is to use chloroform in all cases where it is not positively contra-indicated, and I believe it to be positively contra-indicated only when the patient has a weak, laboring or dilated heart. It may be used with comparative safety in cases where valvular disease exists if good compensation has been established. When it can be avoided chloroform should not be used in operations by gas light as the chloroform vapor is decomposed and very irritating gases set free.

Before administering an anesthetic certain precautionary measures should be observed. In every case the condition of the heart and lungs should be carefully investigated. The patient should fast not less than

six hours before taking the anesthetic as the presence of food in the stomach increases the tendency to nausea and vomiting. When vomiting occurs during narcosis there is always danger that food particles may be drawn into the air passages and the so-called "aspiration pneumonia" result. In operations involving the abdominal or pelvic cavities it is always advisable to thoroughly empty the bowels with either salines or enemata the day before the operation. In very weak or anaemic patients I ordinarily give hypodermatic injection of strychnin, the dose varying from one-sixth to one-thirtieth of a grain; while in very nervous or hysterical patients the hypodermatic administration of one-eighth of morphine and one-two hundredth of a grain of atropin from fifteen to thirty minutes before the operation will often prove of great value.

The clothing should be as light and loose as possible, as about the neck, chest and abdomen there must be no constriction that could interfere with respiration. It is even desirable to have a portion of the thorax uncovered so that the respiratory movements may be more easily observed. All false teeth, plates, chewing gum, tobacco, or other foreign substances should be removed from the mouth; while the eyes should be covered with a damp towel. Many anesthetists anoint the lower portion of the patient's face with vaselin, but I have never found such a procedure necessary.

For general use chloroform possesses great advantages over ether in that a smaller quantity is required and the patient passes more rapidly and quietly under its influences; with chloroform the nausea is seldom as severe as with ether, the vapor not being so irritating to the respiratory passages. The excessive secretion of mucus, so annoying in ether-narcosis, is rarely present with chloroform; the anesthesia is peculiarly quiet and even and well adapted to abdominal and pelvic work.

Only such chloroform as is known to be absolutely pure should be used. Impure chloroform may be dangerous on account of various methyl compounds formed during its manufacture, and various decomposition products resulting from exposure to light, air and moisture. Pure chloroform poured on clean white filter paper and allowed to evaporate should leave no odor.

Immediately before the administration of the chloroform, its nature and action should be explained to the patient. He should be told that the chloroform may choke him a little at first, that he may have sensations of falling, or hear strange sounds, but that this will last only a few moments, then he will become drowsy and soon fall asleep. The room should be as quiet as possible; the rattling of instruments and trays, and the talking incident to the preparations for an opera-

tion will often greatly excite a nervous patient and materially retard the progress of the anesthesia. In hospital practice I have found it much better to anesthetise women in their own rooms before taking them to the operating room. Talking to them and quieting their fears as they are taking the anesthetic will often prevent any struggling or excitement. At the beginning of an anesthesia many patients are especially susceptible to the power of suggestion and may be controlled thereby to a great extent.

Chloroform is best administered with the Esmarch mask and by the drop method. By the Esmarch mask I mean a wire frame covered with a single layer of flannel or stockinet. Some writers recommend placing a wad of absorbent cotton between the cover and the frame, but I believe that to be a most reprehensible practice, and on a par with the methods of some alleged anesthetists who administer chloroform with an Allis inhaler, a towel cone or a bath sponge stuffed into a goblet. The men who employ these methods are the same ones who gravely tell their patients: "You can't take chloroform; it'd kill you, sure!" and under the circumstances it probably would. In the last two years I have given chloroform to not less than one hundred and fifty patients who have told me how their family physician said they could not take chloroform. To return to the proper method of administering chloroform, a few drops are poured on the mask, which should be held a short distance from the face until the patient becomes accustomed to the vapor; then it should be brought closer and the chloroform dropped on slowly and continuously. By this method anesthesia is produced with the least possible amount of chloroform and a minimum degree of danger to the patient. More chloroform is required when the patient is in the Trendelenburg position or near an open window. An alcoholic always takes chloroform badly and requires an immense amount to produce narcosis. In one case I gave five ounces before the patient showed the first signs of relaxation and three ounces more before the operation, which lasted twenty-five minutes, was completed. In another case I kept a girl anesthetised for thirty minutes, for an oöphorectomy ,with three drams of chloroform.

Choking, coughing, or swallowing during the early stages of anesthesia mean that the patient is receiving too much chloroform and that the mask should be momentarily withdrawn and more air admitted. Under no circumstances should chloroform anesthesia be hurried, neither should the patient be exhorted to "breathe deep!" This exhortation is a confession on the part of the one using it of ignorance of or lack of experience in the use of anesthetics. Another procedure to be condemned is the practice of some anesthetists of constantly stick-

ing their fingers in the patient's eyes during the entire period of narcosis. This practice is not only dangerous, but it is absolutely unjustifiable on any ground. No information is derived that cannot be obtained from other sources; in fact the majority of those addicted to this habit have not a clear idea of the character of the information they expect to gain. In case it should become necessary to test the ocular reflexes, the slightest touch to the cilia will be sufficient.

While in some cases the patient goes to sleep quietly under the influence of the anesthetic, there is ordinarily a well marked stage of excitement, during which he struggles, throws his arms and legs about, shouts, sings, prays, swears, laughs or cries. Gradually the struggles become less violent, the loud cry becomes a confused, incoherent mumbling, the respiration becomes slow and regular, the pupils become contracted and irresponsive to light, the conjunctival reflex is abolished, the muscles relax and the patient is ready for the surgeon.

If, during narcosis, the patient vomits, the anesthetic should be stopped, his face and shoulders turned to one side and the jaw drawn forward. When the patient becomes quiet the anesthetic may be resumed. Respiratory disturbances are common, but as a rule, not dangerous. Mucus may accumulate in the air passages, causing temporary stoppage of respiration, or the tongue may fall back against the posterior pharyngeal wall, closing the larynx by pushing down the epiglottis; when this happens, the difficulty, ordinarily, may be corrected by drawing forward the lower jaw, at the same time extending the head; the use of much force is rarely necessary or justifiable. In some cases it is necessary to open the jaws and draw the tongue forward with forceps, but only an instrument that will not lacerate the tongue should be used for his purpose, as the patient has enough pain after any operation without the added discomfort of a torn or lacerated tongue.

Cardiac disturbances are always very dangerous. While the force and frequency of the pulse is normally diminished during the complete narcosis, any disturbance of the cardiac rhythm is a sign of threatened collapse. In chloroform syncope the face becomes waxy white, the pupils widely dilated and irresponsive to light, the pulse imperceptible, the heart sounds almost inaudible, respiration stops, the arterial blood becomes dark, and hemorrhage suddenly ceases. At the first sign of collapse, the chloroform should be stopped, the head lowered and the body raised. This procedure not only allows the blood to gravitate to the head and heart, but it also rapidly empties the lungs of chloroform vapor. If the patient does not immediately revive, artificial respiration must be employed, as it is possible by this means to keep up a very feeble circulation even after the heart has stopped beating, the respiratory movements apparently aspirating the blood into

the right auricle. If, during the course of the narcosis, the heart's action becomes weak or the patient shows signs of shock, hypodermatic injections of strychnin, gr. 1-30, should be given.

In ether narcosis, only the best quality of sulphuric ether should be employed. It is best administered with a cone made of stiff paper covered with a towel; in the apex of the cone is placed a piece of gauze or cotton and upon this the ether is poured, one or two drams at a time. The administration should begin gradually, the cone being held a short distance from the face until the patient becomes somewhat accustomed to the vapor, then, as tolerance is established, the cone should be pressed close to the face, the air shut out as much as possible and the concentrated vapor administered.

As the patient passes under the influence of the anesthetic the face and neck become deeply congested and the strength and frequency of the heart beat is increased. In the early stages of the narcosis there is a transitory period of insensibility and relaxation lasting from one to three minutes. This is immediately followed by a stage of active delirium which may last from ten to twenty minutes, then gradually passes into a stage of profound narcosis.

Owing to the irritating effect of the ether upon the respiratory membrane, there is commonly present an excessive secretion of mucus, which, accumulating in the air passages, may cause considerable trouble and annoyance by its mechanical interference with respiration. Cardiac disturbances are quite rare; nausea and vomiting are usually present and are best combatted by increasing the amount of the anesthetic.

With regard to the comparative dangers of chloroform and ether, there are great differences of opinion. The mortality rates as given in the current literature on the subject, varying from one death in twenty-six to one death in three thousand chloroform anesthesias, and from one death in eight hundred to one death in twelve thousand ether anesthesias. The commonly accepted statistics are one in fifteen hundred for chloroform and one in five thousand for ether. I believe the danger from chloroform to be greatly exaggerated and that from ether correspondingly minimized, and that the greater safety of ether is much more apparent than real, the cause of the current misapprehension being found in the different effects of the two anesthetics. When a patient dies from chloroform the cause of death is only too plain.

Ether may kill suddenly from respiratory paralysis, but ordinarily death does not occur immedately, but at a longer or shorter period of time after the effects of the anesthetic have apparently worn off, when the fatal result is attributed to other causes as shock, pneumonia, or nephritis.

With regard to the production of anesthesia by the subarachnoid injection of cocain, my personal experience has been rather limited, but I am convinced that the method is infinitely more dangerous and much less satisfactory than the administration of chloroform, notwithstanding the claims of some of the advocates of this procedure that perfect anesthesia is obtained and that the injection is made easily, painlessly and with perfect safety to the patient. While the principal dangers attending this method are from cocain poisoning and sepsis, the simple lumbar puncture is not entirely devoid of danger, Gumprecht reporting seventeen cases where death followed exploratory puncture and the fatal result could be attributed only to this apparently trivial proceeding. Cocain itself is a notoriously treacherous drug, there being but few physicians who have not seen cases of dangerous collapse following its use even in the smallest quantities. Injected into the subarachnoid space it is not unreasonable to expect severe toxic manifestations. Sepsis may be due to the use of a dirty needle or syringe, failure to properly cleanse the skin at the site of puncture, or to an imperfectly sterilized cocain solution. To these sources of danger may be added hemorrhage into the canal from a divided blood vessel. While under ordinary circumstances the danger of lacerating the medullary tissues is very slight, the fibres of the cauda equina and filum terminale being pushed aside rather than penetrated by the short beveled needle used for this purpose, it is possible to do considerable damage to these structures. A sudden movement on the part of the patient may easily break the needle. Another source of danger, probably the greatest of all, lies in the apparent simplicity of the method.

I am able to present more or less complete records of 942 cases as follows:

	Reported by	Cases.	Successful.	Part Suc.	Failures.
1	R. Amyx, St. Louis City Hospital....	3	1	2	0
	C. H. Anderson	6	6	0	0
2	A. C. Bernays	6	5	0	1
	W. T. Bainbridge	12	11	0	1
	J. B. Bogart	25	18	0	7
	B. J. Boldt	1	0	0	1
	Bumm and Kreis	6	6	0	0
	H. C. Cole	1	1	0	0
	A. M. Cartledge	3	8	0	0
3	A. P. Dudley	6	6	0	0
4	F. Dumont	3	1	1	1
	G. R. Fowler	81	73	7	1

	Reported by	Cases.	Successful.	Part Suc.	Failures.
	J. R. Goffe	2	2	0	0
5	V. P. Gibney	5	5	0	0
6	S. O. Goldan	31	25	2	4
	E. H. Grandin	3	0	0	3
	W. W. Hamer	1	1	0	0
7	N. J. Hawley	36	23	13	0
8	C. C. Hopkins	1	0	0	1
	C. P. Hersey	2	1	1	0
9	F. Kamerer	40	40	0	0
	W. W. Keen	1	1	0	0
	Emory Lanphear	2	1	1	0
10	Ernest Laplace	2	1	0	1
11	E. W. Lee	10	8	2	1
	B. McMonagle	2	2	0	0
12	Rudolph Matas	9	6	2	1
13	J. B. Murphy	42	38	1	3
14	W. C. McDonald	1	0	0	1
15	S. Marx	125	122	1	2
16	Seneca Powell	2	0	0	2
	W. L. Rodman	2	2	0	0
17	Racoviceanu-Pitisci	125	121	0	4
	L. E. Schmidt	1	1	0	0
18	Severanu	80	?	?	?
	Tuffier	252	?	?	?
	R. T. Weir	3	2	9	1
	H. J. Whitacre	4	4	0	0

REMARKS.

1 Second injection necessary in two cases. Two cases of dangerous collapse.
2 Second injection in one case.
3 One case dangerous collapse—five of cocain intoxication.
4 One death.
5 Second injection necessary in one case.
6 Two injections in six cases.
7 Second injection in one case. Dangerous symptoms in two.
8 Dangerous collapse.
9 Several cases of dangerous collapse.
10 Repeated injections in one case but no anesthesia obtained.
12 One case cocain poisoning.
13 Failures attributed to inert cocain.
14 Dangerous collapse.

15 Frequent difficulty in entering canal.
16 Two cases dangerous collapse.
17 Eighty cases cocain intoxication. Three collapse.
18 Great many cases of collapse.

Of 612 cases in which full particulars are available, complete anesthesia was obtained in 542 cases, partial or insufficient anesthesia in thirty-three, and in thirty-five the anesthesia was a complete failure. In eighteen cases there was dangerous collapse, and marked, though not dangerous symptoms of cocain poisoning developed in eighty-five cases. Second injections have been given in a number of instances, while difficulties in entering the canal have been reported by numerous operators. No cases of infection are on record as yet, but that is probably due to the fact that as yet the procedure has only been attempted by thoroughly competent surgeons. If this method of producing anesthesia should ever be adopted by the profession generally, I believe the death rate from meningeal infection will be simply appalling. A number of deaths, due to the subarachnoid injection of cocain are on record. F. Dumont reports one, Racoviceanu Pitisci reports two occurring in Bucharest, and five are credited to Tuffier.

Operations under spinal cocainization are attended with peculiar difficulties. The patient is conscious and by untimely interference, nervousness, or fright may embarrass the operator at every step. The reduction of fractures or dislocations, and all abnormal or pelvic operations are rendered exceedingly difficult, if not impossible, from complete absence of muscular relaxation. At no period during the anesthesia is sensation entirely lost in the peritoneum, the spermatic cord, the ovaries, or the testes. In an abdominal section should sensation return before the operation is completed it will be impossible to give a second injection. Among obstetricians there is considerable discussion as to the value of this method in their special line of work. Hawley, of St. Louis, and Marx, of New York, believe that it is of the greatest value, but the general opinion is decidedly against its use.

Among the so-called minor inconveniences already reported as attending its use may be mentioned severe and long-continued headache, excessive nausea and vomiting, chills, fever, extreme weakness, cold sweats, and presentiments of approaching death, while serious respiratory and circulatory disturbances are not at all uncommon. Involuntary defecation and micturition occur in from 35 to 60 per cent. of all cases.

In conclusion, I must confess that I am entirely unable to appreciate any advantages that spinal cocainization may possess over the present methods of general anesthesia, and from my own experience and a rather extensive review of the literature on the subject I am

convinced that this method of producing anesthesia should have no place in the practice of the general profession.—St. Louis Medical Review.

NEW YORK ACADEMY OF MEDICINE—SECTION OF ORTHOPÆDIC SURGERY.

Meeting of March 15, 1901.

GEORGE R. ELLIOTT, M. D., Chairman.

Dr. Homer Gibney presented a boy, age 11 years, who had had infantile spinal paralysis. There was equino-varus of the left foot with slight cavus. According to previous history, astragalectomy had been performed five years previously without beneficial results. November last Dr. Gibney exposed the tarsal bones, curetted the cartilages, sutured the wound and applied a plaster of Paris bandage. The result was that the foot was shown at a right angle with slight motion.

ACUTE HIP DISEASE.

A second patient, a girl six years of age, was shown by Dr. Gibney. She was suffering from acute hip disease when first seen, in October, 1899. A brace was applied and the child put to bed. Her hip became worse; the hip was stretched and a plaster of Paris spica was applied. An abscess developed and was opened January, 1900. Improvement followed the incision, but owing to a profuse discharge, fever and loss of flesh, the hip was excised April, 1900. The child improved rapidly after the operation; a small sinus remained.

PARAPLEGIA COMPLICATING SPINAL CARIES.

Dr. Gibney presented a third patient, a girl nine years of age. She was admitted to hospital December, 1900, with the history that her disease followed an attack of diphtheria five years previously. A plaster of Paris jacket was worn for six weeks at onset of disease, and then for eighteen months she wore a Taylor brace with head rest attachment. In 1897 she had an attack of paraplegia which lasted six months. One year ago she had a second attack which persisted at time of admission into the hospital. There was at that time paraplegia, incontinence of urine, increased reflexes with marked ankle clonus. December last the child was put to bed wearing a plaster of Paris jacket with head extension. The jacket was re-applied January, 1901, with head extension and plaster straps over the shoulders. A third jacket was applied February 21. Improvement was gradual and child was shown with fairly good voluntary use of legs.

Dr. Royal Whitman said he hardly thought it fair to say that the paraplegia developed while under treatment by the Taylor brace. The

child had come under his observation four years before with very slight deformity. The child was under poor control and had been through many hands, including osteopathy. Recently he had again seen her, and referred her to the hospital for R. & C. He would suggest that the case was one that illustrated ineffective treatment rather than of mechanical treatment of any form.

Dr. Gibney said he simply showed the patient to demonstrate the effect of a well-applied apparatus. As a matter of fact, the paraplegia did develop while the child was wearing a Taylor brace, but was under no one's medical or surgical care. The brace was ill-fitting, in fact worse than useless.

COXA VARA.

Dr. W. R. Townsend presented a boy 15 years old, who came to the hospital for R. & C. one month ago, with the history that without any apparent cause one year previous he began to have difficulty in walking and was easily fatigued. The difficulty in locomotion had steadily increased. The limbs were equal in length and the X-ray revealed a very marked case of coxa vara. There was limitation of motion and the great trochanters were one inch above Velaton's line.

Limitation of motion, especially in flexion and extension, was very great. There was not over fifteen degrees of motion on the right side and none on the left. Standing, the knees could not be separated more than three inches. The patient sat with difficulty. A radiograph was shown. He asked if any member of the Section had seen a case of coxa vara with so much limitation of motion.

Dr. Henry Ling Taylor replied that it was more severe than any he had seen.

Dr. Whitman said that limitation of flexion was always present in these cases, although limitation of abduction was the more marked feature. He stated that some years ago he had presented a patient before the Section with even more marked disability than the present one. In that case the deformity progressed until the patient was totally disabled. After the acute symptoms subsided he performed an osteotomy on one femur with so good a result that the operation for the lesser deformity was never made. The man finally recovered perfectly; motion returned as far as flexion and extension were concerned. He believed that operative treatment would completely relieve the condition.

Dr. A. B. Judson asked what was the sequel to such conditions. What believed that operative treatment would completely relieve the condition. vation?

The chairman replied that the subject had been rather fully discussed at the last clinical meeting of the Section, and the conclusions

arrived at were that very marked improvement followed osteotomy properly performed after subsidence of acute symptoms. In the absence of operation more or less permanent disability; condition commonly remained in statu quo. He referred Dr. Judson to the report of the Section proceedings (January 18, 1901).

SPONDYLOSE RHIZOMELIQUE.

Dr. Townsend presented a man 35 years old, who five years ago began to have stiffness of the back and difficulty in walking. He had had two attacks of muscular rheumatism. He had had no pain excepting in the upper part of the back and when sitting. These symptoms increased until the present time; he was obliged to use crutches. The thighs were flexed on the pelvis about twenty degrees; extension and flexion were much restricted. He regarded the lesion of the hip joints and the spinal stiffness as typical of spondylose rhizomelique. He suggested a plaster of Paris jacket as of some service.

Dr. George R. Elliott said errors of diagnosis were not infrequently made and the disease mistaken for one of the varieties of chronic spinal rheumatism; frequently great spinal pain and hyperalgesia accompanied the progress of the disease, subsiding after a while. He mentioned a patient he had seen a few years ago, before the disease had been carefully described, where he examined under an anæsthetic, owing to the great degree of pain present. The pain subsided after three or four years—the marked anchylosis so characteristic of the central type of the disease remaining. This patient was shown before the Neurological Society by Drs. Sachs and Fraenkel (Oct. '99).

Dr. Townsend showed two radiographs, one showing union of a fracture of the neck of the femur after use of a long traction hip splint (patient shown before Section Jan. 11, 1901;) the other radiograph was of a case of double dislocation of the hip joint which had been treated by the bloodless reduction eight weeks before. The picture was taken through the plaster of Paris splint.

CONGENITAL CLUB FEET.

Dr. Judson presented a boy 5 years old, first seen when there was marked and resistant typical double deformity which had been reduced by the painless continuous leverage of a simple brace applied with adhesive plaster and often removed for manipulation of the feet; later a walking brace had been used; all the apparatus used was of a common kind with a single invisible upright. The braces were made of tractable metal allowing change from the deformity to the normal and later to overcorrection. The feet followed these changes through force of adhesive plaster and later by body weight. At the age of fifteen months the deformity had disappeared. Treatment was resumed after

seven months interval the outer border of the feet having become slightly callous; walking braces were applied and worn for twenty-two months, finally laid aside Jan. 15, 1900. On presentation the child walked and ran with normal ability and without defect in his gait. The only remaining defects were slightly shortened Achilles tendons but this was slight, as he could even walk on his heels.

In this affection the following were to be considered as favorable elements:

First. The certainty of rapid growth.

Second. The plastic or formative condition of the parts.

Third. The absence of body weight for eighteen months.

Fourth. The certain effect of continuous leverage.

Fifth. The weight of the body applied on the right side of the plane between varus and valgus in virtue of which the child could stamp his foot straight.

Sixth. The absence of necessity for haste.

Seventh. Use of tractable metal. An unfavorable point was the postponement of treatment till the child was two years old.

Dr. T. Halsted Myers congratulated Dr. Judson on his excellent result and said that when the child could be kept under observation and control such results could be obtained. In all cases whether tendons were divided or not subsequent control was necessary for a year or two at least.

Dr. R. A. Hibbs also commented on Dr. Judson's good result and asked if there had been much internal rotation, as that made treatment difficult or otherwise.

Dr. Whitman said he could not agree with the last speakers that Dr. Judson's case should be considered at all remarkable as to result; it was an average case and an average result. It was evident that there was still a slight tendency to varus dependent upon the slight equinus which still persisted. This, he thought, illustrated the weak point in Dr. Judson's scheme of treatment, that having over-connected the varus deformity, he depended upon the weight of the body to overcome the residual equinus, whereas this deformity should be as thoroughly over-corrected during active treatment as the varus.

Dr. Judson replied that a further elaboration of the principles of continuous leverage would have secured a normal tendo Achilles and completely corrected the equinus; while the result was not absolutely perfect, he considered it as supporting the statement that an operation or violence was in this affection a confession of failure at some time in the history. In practice the resistance of tissues was one of the lesser difficulties to be overcome in the management of cases of this

kind. Greater obstacles were unreasonable haste to see a result and mistaken reliance on rapid and easy methods.

Dr. Taylor regarded the result very creditable, but did not think that all danger of a relapse was passed. He did not agree with several of Dr. Judson's statements which implied that operations were never indicated; operative treatment was often unsatisfactory, if not combined with and followed by mechanical treatment; each method had its propre field and often both were needed. While himself inclining to conservatism, he considered Dr. Judson's remark in disparagement of operative interference much too sweeping.

FUNNEL CHEST.

Dr. Judson presented a man, 71 years old, having a deformity which, although rare, had been described by a number of observers. It w s a curious malformation, entailing no great disability, of uncertain origin and calling for no treatment. From an angular projection at the junction of the manubrium and the gladiolus there was a continuous depression till the deepest place was reached at the end of the xiphoid appendix. The cartilages of the lower ribs were prominent as usual on each side and the front of the chest, although somewhat flat, was normal except for this funnel-like depression, which began on each side at the nipple line and was cup-shaped at the bottom with a depth of 1 1-2 in., unchanged by expiration (31 in.) or inspiration (34 in.).

The man said he had always been so and had never known of another person similarly affected in his family. He had eighteen brothers and sisters. He had been fond of athletic sports in his youth, was a shoemaker by occupation, and had enlisted in the military service in 1862. There was no history or sign of rickets or spinal disease. He had been free from notable diseases of the chest or otherwise, although years ago he had been told that he had serious chronic lung disease.

Dr. H. S. Stokes said it was difficult and frequently impossible to make a correct physical diagnosis when chest deformity existed. He cited a case of Pott's disease where the patient had been told four years ago that he had pulmonary tuberculosis and a bad prognosis had been made. He had frequently examined the sputum of this patient with negative results; all segris of lung involvement disappeared. He cited two cases of lateral spinal curvature which had lately come under his notice where errors of diagnosis had been made. In one the diagnosis of tubercular consolidation was made which turned out to have been only a slight bronchitis.

Dr. Myers presented a case of polio-myelitis in a boy 13 years old; the disease dated from early infancy; the case was exhibited to show

the muscular changes—the right quadriceps was completely paralyzed and the right ligament patella was one inch long; the left quadriceps was fairly strong and the lig. patella 2 1-4 inches long. Osteotomy had been performed on the right side for a recurring genu valgum which had been caused by the greater power of the ext. hamstring muscle. The muscle was split and one-half transplanted and given to the internal hamstring and the knock knee did not recur. He called attention to the marked rotary lateral curvature of the whole dorsal spine with convexity to the left the stronger side, while concavity was toward the side of paralysis of the lower extremity and erector spinal muscles. In club foot, due to polio-myelitis, the shortening always occurred in the stronger or least paralyzed muscles: by analogy the erector spinae muscles on this boy's left side, those least paralyzed should be contracted and they were. This drew the entire thorax strongly to the left and downwards. To maintain his equilibrium the boy had thrown his head and shoulders to the right by voluntary effort inducing the form of curvature present.

CONGENITAL DISLOCATION OF HIP WITH FRACTURE OF SHAFT OF FEMUR.

Dr. Elliott presented a five-months-old baby, sent to him three weeks previously for diagnosis. He found dislocation of left hip and suspected fracture both of which were confirmed by an X-ray picture. According to the history, birth of the child had been very difficult—the breech had presented and great difficulty had been experienced and instruments used. No difficulty was anticipated in reducing the dislocation; the fracture of the femur, however, complicated the matter. He said he proposed to attempt reduction under an anaesthetic and if any great difficulty presented itself, wait till later and do it by the Lorenz non-cutting method.

CONGENITAL DISLOCATION OF THE PATELLA.

Dr. Elliott showed a patient a young man 20 years old with dislocation of the right patella. His relatives had told him that it was first noticed two days after his birth; he wore apparatus at various times, but nothing since 1888. The patella slipped into place on extension, but on flexion slid over the external condyle of the femur even if force was applied to hold it; there was two inches of atrophy of the right thigh; a degree of knock knee existed. All that the patient complained of was a sense of weakness and uncertainty of the leg. The patient wanted to know if the condition could be remedied without leaving him with a stiff knee. He preferred his present condition of slight disability to a stiff leg.

Dr. Hibbs said that he recalled a case of outward dislocation of both

patellae in a man aged 35 years. The condition had existed since three years of age; there was nothing to suggest the cause save knock knee which existed to a marked degree.

Dr. Townsend said he had shown a girl 10 years ago who could at will dislocate both patellae. He advised an operation which would change the direction of the lig. patella at its attachment to the tibial tubercle by moving the tubercle and reattaching it so that the patella would be kept in the intercondyloid space. Reattaching some of the fibres of the varus might also be necessary to prevent the pulling of the patella to one side.

Dr. J. P. Fiske suggested correcting the genu valgum present by an external osteotomy above the knee joint, thus convrting the knock knee into a mild bow leg. This would not only hyper correct the weight bearing line but also give the patella and attached muscle a chance to act in a proper line.

A CASE OF SPONDYLOLYSTHESIS.

Dr. Taylor presented a man 19 years old, whose occupation was loading and unloading furniture. Last December he sought treatment for weakness of his back and occasional pains in the lumbar region at night, after hard work. About three years ago he slipped on the ice and fell heavily on the buttocks. He worked the following day. He experienced no inconvenience for some time but within a few weeks he noticed a decided projection, lower part of spine, which he still has. He thinks it is less now than formerly.

Examination revealed a marked projection of the fifth lumbar spine and a deep depression above it. At the bottom of this depression could be felt the fourth lumbar vertebral spine one-half inch in front of its normal position. The patient could bend forward and touch the floor and showed none of the characteristic attitudes of the rigidity of spondylitis.

He was strong and able to work. There were no rectal or bladder symptoms or lower extremity paralysis.

Dr. Whitman said that he did not consider cases of injury to the spine as so uncommon as was generally believed. He cited four cases he had under observation of fracture of the spine and noted that the case presented was one of traumatic origin.

Dr. Taylor said he did not think it fair to class the case among ordinary fractures of the spine. This case belonged to a distinct class of rare occurrence and consisted in a sliding forward of the spinal column at the junction of the fourth and fifth lumbar vertebrae. It often occurred between the fifth lumbar vertebrae and sacrum. He had seen only two similar cases both in men and one non-traumatic. In Euro-

pean literature the affection had chiefly been studied in women in connection with parturition.

Dr. Whitman said he did not mean to classify this case with those of ordinary fractures which, as a rule, resulted in a kyphosis, but that he considered the case in question one of fracture displacement of traumatic origin.

Dr. Myers remarked that he had seen two cases, both traumatic; they were in women and in one the pain was greatly exaggerated after the birth of a child, in the other after lifting. Both were relieved by the constant support of a spinal assistant brace with a broad abdominal band.

Dr. A. E. Gallant showed a model of the triangular, pasteboard Van Arsdale splint. He stated that this splint was used in children in fractured femur with excellent results; he had reported thirty-three cases himself. It was light, could be adjusted leaving the child in a comfortable position and in young infants it was out of the way of soiling. The children were not confined to bed, but could sit up and play without hindrance.

He cut a model and drew a diagram illustrating the manner of preparing the splint.

NEW YORK ACADEMY OF MEDICINE.

Section on Orthopædic Surgery.—Meeting of April 19, 1901.—R. H. Sayre, M. D., Chairman Pro Tem.

Dr. Royal Whitman presented a patient upon whom he operated in 1897 for the correction of a very marked anterior bowing of both legs. The operation was an osteotomy of the tibia, fracturing of the fibula, division of the tendo Achillis and direct forcible correction of the deformity. He presented the case to show the good results; the operation seemed preferable to cuneiform osteotomy as it resulted in lengthening the bone somewhat.

ROTARY LATERAL CURVATURE OF THE SPINE.

Dr. Whitman showed a girl with marked lateral rotary curvature of the spine. Four years previously he had treated her for club foot and had not seen her since. He advised for this patient manual correction and fixation in plaster jacket.

He called attention to the complete range of dorsal flexion present in the foot. His treatment had been manipulation and the plaster bandage.

DORSAL POTT'S DISEASE.

Dr. Whitman showed a boy treated for Pott's Disease in the dorsal region with his anterior shoulder brace in connection with the ordi-

nary back brace, and called attention to the fact that there was no forward inclination of the shoulders or flattening of the chest, as is usually the case in deformity of this region.

ANKYLOSED ELBOW JOINT.

Dr. W. R. Townsend showed a man with ankylosed elbow joint flexed just short of a right angle, to show the great range of motion preserved to an arm where the fixation of the elbow had occurred in a favorable position.

POTT'S DISEASE WITHOUT DEFORMITY.

Dr. Townsend presented a second patient and said two years prior to his seeing him complained of pains in his back and abdomen of a girdle character. There was stiffness of the lower portion of spine, but no evidence of deformity. Diagnosis of Pott's Disease without deformity was made and a plaster of Paris jacket applied. The jacket was removed after four months at patient's request; all pains had disappeared, and there was a question as to possible error of diagnosis. The patient subsequently returned with a large cold abscess in the left lumbar region, with psoas contraction. The man felt no pain and was unwilling to have jacket reapplied. The abscess and spinal stiffness made the diagnosis of Pott's Disease certain.

Dr. H. R. Sayre said he had under observation a case similar to the one of Pott's Disease shown by Dr. Townsend. The patient had girdle pains, pains down the thighs, difficulty in bending and great pain in being jarred; no deformity. Diagnosis of Pott's Disease made and plaster jacket applied. Some time later the patient developed paralysis of both lower extremities. After a year the paralysis disappeared and a large pelvic abscess developed which was opened in the inguinal and lumbar regions. Later there formed in the opposite side another abscess, which was opened. At present there is a very slight irregularity noticeable at the fourth and fifth lumbar vertebræ. The pressure of the abscess accounted for the paraplegia.

FRACTURE OF THE NECK.

Dr. Sayre showed a man who, some months previously, had fractured his neck by falling. Following the injury, he had paralysis of the lower extremities and partial paralysis of the upper extremities with no control of bladder or rectum. When seen by Dr. Sayre two months after the injury, the patient's neck was rigid. A diagnosis was made of fracture with dislocation of the third and fourth cervical vertebræ verified by use of the X-ray. The treatment consisted in getting the head into a good position and applying an apparatus to support the head and hold the neck. The man had been under treatment three months and movements of head were good; apparatus would be discarded.

He cited other cases, and said splints were frequently removed from fractures too soon and before good osseous union had taken place.

Dr. Samuel Lloyd read the paper of the evening, entitled: "The Operative Treatment of Deformities of the Elbow Joint Resulting from Traumatism."

He said three things were recognized in fractures into the elbow joint: First, not always possible to tell even under an anæsthetic and with the most careful examination just what the joint injury was. Second, not always possible to replace the fragments even approximately. Third, anchylosis resulted in certain cases in spite of any plan of treatment.

All fractures involving or in vicinity of elbow joint should be examined under anæsthesia, and the fragments placed in apposition and the limb dressed in position that enabled the operator to retain them in place most efficinetly. He favored flexion. He was decidedly opposed to passive motion so much advocated by the older surgeons, believing that this caused an increase of callus and consequent diminished range of motion. Any passive motion in an elbow joint until after the bone was firmly united was meddlesome surgery. If, when the splint was removed, motion did not return promptly by active motion (an attempt on the part of the patient to use it regularly) the deformity should be examined. If moderate passive motion succeeded, then simple adhesions. If joint did not yield under an anæsthetic, then the difficulty was probably due to obstructing callus or a displaced fragment. He believed the anchylosis or limitation of motion due to bone and not to fibrous adhesion, provided there had been no septic complications. While his first operations and conclusions antedated use of X-ray, the latter had been corroborated by an extensive use of the X-ray.

An overproduction of callus was a constant danger of producing anchylosis and was increased by any motion of the fragments during the period of union; provisional callus was objectionable, bone united in the same manner as the soft tissues with but little granulation tissie, if firmly held together.

The X-ray has been somewhat disappointing in solving all the difficulties of fracture work, since it gives only a shadow of the real object. The X-ray, however, so frequently illustrating dislocation complications, had emphasized the necessity of using anæsthetic in the first examination of fractures above the elbow joint.

Majority of cases of anchylosis of elbow following fracture being due to bony displacement or to callus, if non-operative measures were not successful in removing these causes, something should be done to put the bones in proper position. In compound fractures, all agreed as

to what should be done—enlarge the wound and suture the fragments inposition.

But it was with simple fracture that he dwelt upon. At first sight cutting into the joint and manipulating the structures about the joint, including the capsule, would result in almost if not absolute fixation. Such had not been his experience; the fear of attacking a joint surgically was largely a relic of pre-asceptic times.

He cited the different fractures occurring in vicinity of the elbow joint, and illustrated his paper by a series of skiagraphs of cases he had operated upon. One a supra-condyloid fracture of the humerus where the difficulty was found due to both callus and displacement. The arm had been treated at angle of 145 degrees, the condyles were carried backward while the shaft of the bone was drawn forward.

In flexion the coronoid process of the ulna truck upon the mass of callus below the more prominent projection of the shaft, while the ulna rested upon the sharp end of the diaphysis in the complete flexion. This boy had a useless arm. The projecting portion of the diaphysis was chiseled off and a new coronoid fona was cut out with a curette until complete flexion was possible. The result was remarkably satisfactory. In spite of the extensive dissection necessary to reach the anterior surface of the humerus and the consequent lacerating and bruising of the capsule and synovial membrane, flexion was obtained almost to the full extent. Skiagraphs were shown further illustrating varieties of fractures about the elbow joint complicated with callus and dislocation upon which he had operated generally with success. He summed up the management of fractures of the elbow in the following words:

"1. Examination and reduction under ether. If the latter is impossible, and it is evident that disability will result in consequence, immediate incision and dissection until the fragments can be forced into position and wired or sutured. If, however, this is still impossible, the fragments should be removed.

"2. If anchylosis or marked limitation of motion results and does not prove to be due to fibrous bands, operation should be undertaken and everything opposing the proper movements of the joint should be cut away."

He said when he performed his original operation in 1894 he was unable to find any records of previous operations of the kind, but now many. He mentioned, as reporting cases, Alles Annals of Surgery, 1897; Wight ibid, 1893; Klemm Sammbeng Klin Vortrag, September, 1893, recognized possibility of the operation.

The open method of treatment had been advocated much earlier in irreducible dislocations of the elbow, and it seemed strange that it was so late in coming into more general use in fractures.

In all his cases, twenty-one in number, the posterior incision similar to that made for excision of the joint was employed. This answered well for manipulation of the olecranon fessa of the humerus or the injuries to the condyles. The difficulty of clearing out the coronoid fossa and managing the anterior displacements was greater. He varied the incisions according to the injury. The capsule should be as carefully opened and sutured as the peritoneum. He said one could scarcely be too radical in removing bone; it was better to try for both flexion and extension than to stop short of removal of any obstruction. After removal of bone he flushed the joint with hot normal saline solution, sutured the capsule carefully and closed the wound without drainage. Rest in flexed position for one week then massage and active motion.

Dr. Lloyd also presented two patients upon whom he had operated to further illustrate his paper.

Dr. B. Farquhar Curtis opened the discussion of Dr. Lloyd's paper with the remark that he approached these injuries followed by bad deformity of the elbow joint with great caution; these operations were among the most difficult of surgery, and as a great test of the asceptic methods of the operator. He thought suppuration was very apt to occur and if so, particularly if serious, the operation was lost. Another point was the impossibility of calculating upon the production of new bone or of checking its formation, the overproduction being almost certain to occur. Again, fracture, particularly in children, was near the epiphyseal line and the surgeon was often confronted with the necessity for removing the epiphysis with the result of checking the growth of the limb. He differed with Dr. Lloyd in that he treated recent fractures of the condyles of the humerus with loss of the carrying point, in the extended position for ten to fourteen days, then flexing the elbow joint—other cases in the flexed position from the first; massage begun within the second or third week in all fractures near the elbow joint.

Dr. A. B. Judson commented upon Dr. Lloyd's use of skiagraphy, saying that he had not seen a more useful application of the X-ray to surgical procedure.

THE EFFECT OF FLEXION OF THE SPINE ON ROTATION.

Dr. Judson exhibited a stick of sponge-rubber made to represent the spine, with pins in place of the spinous processes. The object was to see whether flexion or extension were able to affect in any way the rotation which accompanies lateral curvature. The model had been photographed (1) in lateral curve combined with flexion, and (2) in lateral curve combined with extension, but it was seen that in either case there was no trace of rotation. Further observation and reflec-

tion brought to light the fact that the curve in either case was in reality a simple curve. Although produced by combination of a lateral and an antero-posterior curve, it was in reality a simple curve lying somewhere between the two, the resultant of two forces, but with no power to affect rotation than any other simple curve, however produced. It had been suggested that if flexion could really be considered as causing rotation its opposite, extension, would be useful in combating rotation. Too much, perhaps, could not be said in favor of forced extension, as in the treatment of Pott's disease. The immediate effect of this would be to transfer the weight from the bodies to the processes, which would be a good thing, as the processes were held near the middle plane and were, therefore, less abnormal in their position than the bodies which in curvature swung away from the middle plane. This freedom of the bodies combined with arrest of lateral motion on the part of the processes was what produced the phenomenon of rotation.

Dr. Charles H. Jaeger demonstrated the Lorenz hip redresseur—a simple and convenient apparatus for the application of bandage to the lower extremity, its chief use being to correct faulty positions of the limb and then to hold the limb in the corrected position while the fixation bandage was applied. Its advantages were—

1. Dispensing with one or two assistants.
2. Retaining limb in position.
3. Stronger traction than could be applied by hand and kept up evenly.

He presented a patient wearing a Lorenz spica. Attention was called to necessity of carefully modelling of the plaster over the iliac crests, also to the padding used—first a tricot which enveloped leg and abdomen, then a thin layer of ordinary non-absorbent cotton cut in strips four or five inches wide, glued on both sides and applied like a roller bandage.

Dr. Sayre had seen an apparatus similar to the redresseur, devised by Bruns, of Tubingen. He thought the Lorenz superior.

Dr. Gibney expressed himself as much pleased with the redresseur.

LAXATION IN CONSTIPATION.

By J. A. Rene, M. D.,

WEST SUPERIOR, WIS.

The successful treatment of constipation does not consist in simply momentarily relieving overloaded intestinal organs, because some of the pathological conditions co-existing may persist even after this result has been obtained.

The fact that there is an intimate association between the intestinal

and cerebral functions was early recognized by the ancients—a fact that shows the need of attending to the cerebral disturbances while correcting the pathological conditions of the gastro-intesinal tract.

The habitual use of purgatives is not to be encouraged, as it only increases the disability which they are intended to remove; and therefore it is essential that the treatment should be one aiming at permanent results as well as relief. And for that reason it is very often necessary to combine drugs that will not only relieve the constipation, but also cure the other pathological conditions which might have been the primary cause of the constipation, or have been brought about by the constipation itself.

Of late years many preparations have been placed at the disposition of physicians, and some of these preparations are certainly scientific combinations. Most of them contain such splendid remedies as belladonna, aloes, cascarin, etc., but of all the recent preparations which have come to my notice I have found the Laxative Antikamnia and Quinine Tablets to be the most efficacious in relieving cerebral disturbance, as well as curing the intestinal trouble.

A close study of this combination shows that it is a tonic-laxative, analgesic and antipyretic—and its administration in certain cases is sure to be followed with excellent results. For instance, in the sequelae of typho-malarial cachexia, when a gentle and safe laxative combined with an anti-periodic is required, I have found this preparation of the utmost value. The co-operative or synergetic properties of these ingredients will readily commend themselves to the profession.—Chicago Medical Times.

CLINICAL EXPERIENCE WITH ADRENALIN.*

By Emil Mayer, M. D.,

Surgeon, New York Eye and Ear Infirmary, Throat Department; Fellow American Laryngological Association; and of the New York Academy of Medicine, New York.

The aqueous extract of suprarenal gland is perhaps the best culture medium known. Its instability, the involved method of preparation, its unsightliness, and the inexactitude of its various strengths tend to make us welcome a preparation that is exact, stable and above all, clean. Dr. Jokichi Takamine undertook the task of isolating the active principle of the suprarenal gland. He obtained a substance in stable and pure crystalline form, which raises the blood pressure, and which he named "Adrenalin."

*Abstract from original paper, in the Philadelphia Medical Journal, April 27, 1901.

The author has used solutions of Adrenalin Chloride, one to 1,000, one to 5,000, and one to 10,000: his cases were all rhinological. Blanching of tissues followed the application of the strongest of these solutions in a few seconds, and was very thorough. In no instance was there any constitutional disturbances. He has employed no suprarenal extract since, for any purpose whatever.

The effect of the solutions was not altered by their change to a pink color: they were used for six weeks. Subsequently a small amount of chloretone was added to the fresh solutions and now there is but slight change of color and no floccules appear.

Thirty-five cases are reported in tabulated form, showing that the usual effect of the aqueous extract of the suprarenal gland was obtained. A few operative cases bled freely, but in every instance the hemorrhage was promptly checked by a second application of Adrenalin.

The Adrenalin was used not only as a hemostatic, but for the relief of nasal congestion, as a diagnostic aid, and for the continuous treatment of acute inflammatory affections of the accessory sinuses.

The author arrives at the followingg conclusions:

1. Adrenalin solutions supply every indication for which the aqueous extract has been used.
2. They are sterile.
3. They keep indefinitely.
4. Solutions, one to 1,000 are strong enough for operative work; and one to 5,000 and one to 10,000 for local medication.
5. They may be used with safety.

In this connection it is interesting to note that E. Fletcher Ingals, M. D., of Chicago, also has had a very satisfactory experience with Adrenalin. In a paper entitled "Notes on Adrenalin and Adrenalin Chloride,"* he reports that he experimented with solutions, varying from one to 1,000 to one to 10,000, of the Chloride of Adrenalin in distilled water or normal salt solution, and kept careful records until satisfied of its activity. In nine cases a very small quantity of a spray, of one part of Chloride of Adrenalin to 10,000 parts of water, was applied to the nasal cavities, with the effect of blanching the mucous membrane quickly, and in most cases causing contraction of the swollen tissues similar to that caused by cocain. The first solution used was made with distilled water and caused smarting: normal salt solution was then used as the solvent with perfect satisfaction. The smarting may have been due to the presence of a small quantity of formalin in which the atomizer had been washed just before use.

Experiments were also made with insufflations of a dry powder, consisting of 1.5 per cent. (75 parts) each of biborate of sodium and bicarbonate of sodium; 3 per cent. (150 parts) light carbonate of magnesium;

*Journal of the American Medical Association, April 27, 1901.

one part of Adrenalin, to 5,000 parts sugar of milk. This powder cleared the nasal cavities when obstructed by swelling of the turbinated bodies, and diminished the secretions decidedly. A case of daily epistaxis was relieved by sprays of a one to 10,000 solution. Another of conjunctional congestion from overwork was entirely relieved by the instillation of a similar solution. The author has had equally satisfactory results in cases of conjunctivitis; laryngitis, acute and chronic; acute laryngitis with edema glottidis; acute coryza; chronic laryngotracheitis with acute exacerbation; and in preparation for operations upon the nose.

In conclusion, the following results are presented: This remedy will be of great value in the treatment of acute inflammatory affections of the nasal cavities, either in sprays of one to 5,000 or in powders of one to 5,000 or one to 2,500, sugar of milk. In acute coryza and in hay fevers, in epistaxis from various causes, in acute inflammation of the fauces, solutions of one to 1,000 will have good effects. In acute or subacute laryngitis, solutions of one to 1,000 applied with moderate force, will give very great relief: it appears probable that vocalists may obtain sufficient relief from congested cords, for at least two or three hours, to obtain normal efficiency in the use of the voice.

In a paper read before the Chicago Laryngological and Climatological Association, W. E. Casselberry, M. D., called attention to the fact that Adrenalin Chloride solution is clear, colorless, odorless, sterile and stable, if protected from heat, light and oxidation: it is nonirritating to mucous membranes. When applied locally it exerts identically the same vaso-constrictor influence as the aqueous adrenal extract. Sprayed into the nostrils in the strength of one to 10,000 it produces a visible change from turgidity to compactness of the turbinated tissues, and a decided pallor of the mucous surfaces. In the strength of one to 1,000 or even one to 5,000, it has the power to limit hemorrhage during operations and is an aid in the treatment of epistaxis. It may be substituted for cocaine in all cases in which an ischemic effect is desired, e. g., to facilitate inspection of the deeper recesses of the nasal cavities and to make them more accessible. Adrenalin has little or no cerebral stimulant effect, exciting no desire for more of the drug: hence there is little risk of habit-formation.

The author expresses the opinion that Adrenalin should afford relief in asthma associated with bronchitic and vaso-motor paralysis, although he would expect little benefit from its use in asthma characterized by bronchial spasm. It may be formed into an ointment with vaseline, or mixed with stearate of zinc, powdered starch, or sugar of milk to make powders for nasal or laryngeal insufflation. The bibliography is very comprehensive, covering the literature of the subject down to the present date.

Editorial.

JNO. C. LeGRAND, M. D.,.....Editor and Prop.

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We cannot promise to furnish back numbers.

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The editor is not responsible for views expressed by contributors.

All communications should be addressed to THE ALABAMA MEDICAL JOURNAL, Birmingham, Ala.

The New School of Medicine.

In concluding his able and splendid address to the American Medical Association at the recent meeting at St. Paul, the distinguished President, Dr. Charles A. L. Reed, said:

"The changes which I have advocated are essential for the attainment of the purposes of the association and for the fulfillment of the high destiny of our national profession. They are demanded by the changes that have taken place during the last fifty years. The legislative functions have passed from voluntary organizations to the Congress and the legislatures, where they belong; but it still devolves upon the profession in the organized capacity, to stimulate, to restrain, or otherwise to control the law-making power. The responsibility of the profession is increased, rather than diminished. Science has come

to have a clearer meaning. He who now proclaims a dogma cries alone in the night, while the world sleeps. They who demand a creed may read its varying terms only in the progressive revelation of natural laws. Practice has changed. The depletions, the gross medications, the absurd attenuations, the ridiculous anti-mineralism have given away to a refined pharmacy and to a more rational therapy. Sacrificial surgery has yielded to the spirit of conservatism. Prevention is given precedence over cure. Education implies research and discovery, and all may delve. I proclaim, events proclaim, the existence of a new school of medicine. It is as distinct from the schools of fifty years ago as is the Christian dispensation from its Pagan antecedents. It is the product of convergent influences, of diverse antecedent origin. It acknowledges no distinctive title, it heralds no shibboleth. It is a school of human tolerance, of personal independence, of scientific honesty. It is the slave of neither prejudice nor preconception, and abandons the accepted truth of yesterday, if only it be the demonstrated error of today. It places no premium upon personal prerogative, and extends no recognition to individual authority. It makes no proclamation of completeness, no pretension to sufficiency. It recognizes that truth is undergoing progressive revelation, not ending today, but continuing through the ages. It yields its plaudits to achievement, and recognizes that he is the greatest among men who reveals the most of truth unto men. It greets as a friend him who thinks, though he think error, for, thinking, he may think truth and thereby add to the common fund. It heeds all things, examines all things, judges all things.

"To you, the exponents of this new school, of this new generation, of this new century; to you, representatives of the Democracy of Science; to you, citizens of the Republic of Letters, I extend greetings; and here, in our parliament assembled, here, where our will is supreme, I this day invoke upon our deliberations the spirit of liberty, the spirit of courage, the spirit of progress, the spirit of truth."

Dr. William Jefferson Guernsey, of 4340 Frankford avenue, Philadelphia, Pa., has sent to the profession, through the medical press, a circular in which he requests answers to the following questions, which will be embodied in a future report:

1. Waiving the question of its efficiency, do you believe vaccination to be sanitary?
2. Have you ever prescribed malandrinum as a preventive?
3. Have those to whom you have given it been subjected to a possible contagion of variola?
4. Have you met with any failures?
5. Have you used it for the effects of vaccination?
6. With what result?—Ex.

Miscellaneous Notes.

We call attention to the new advertisements in this number of the Journal.

A new Yale surgical chair for sale. Address the Alabama Medical Journal.

It is stated that in England trained nurses are employed for pet dogs. What the next fad will be remains to be seen.

Before deciding to which Medical College you will go this fall, examine the college announcements in this Journal.

Dr. J. H. McCarty, of this city, died on the morning of June 11th, 1901. A good man, a competent and worthy physician has gone to his reward.

An exchange says: Chicago now claims to be the healthiest large city in the world. Its death rate has steadily fallen, from 18.11 in 1894, to 14.56 in 1900. With the present population this is equivalent to the saving of 6,000 lives annually.

Celerina is a powerful stimulant without the depressing after-effects of alchohol, caffeine, nitro-glycerine, etc. It is also a reliable Nerve Tonic. A pleasant exhilaration is experienced after a dose of one or more teaspoonfuls, and under its continued use a renewed capacity for mental and physical exertion results. It is indicated in all forms of exhaustion, mental inertia and senile weakness.

Pepsin is undoubtedly one of the most valuable digestive agents of our Materia Medica, provided a good article is used. Robinson's Lime Juice and Pepsin, and Arom. Fluid Pepsin, (see page 12 June number) we can recommend as possessing merit of high order.

The fact that the manufacturers of these palatable preparations use the purest and best Pepsin, and that every lot made by them is carefully tested, before offering for sale, is a guarantee to the Physician that he will certainly obtain the good results he expects from Pepsin.

Dr. Smithwick, of LaGrange, N. C., in January, 1901, number of Maryland Medical Journal, says: When, in disease, bed sores occur, we must use the best means for healing them and making the patient com-

fortable. In my experience I have tried a great many things, but have come to the conclusion, which is substantially by clinical results, that I obtain the best results by thoroughly washing the parts with warm normal salt solution, bathing in peroxide of hydrogen, and dressing in pledgets of cotton or strips of gauze, soaked in Ecthol. This dressing is repeated once, twice or thrice daily as the urgency of the case seems to demand.

Henry (Medical Essays), says: In uric acid disorders, after careful regulation of diet, the basis of treatment must consist of a remedy which, in addition to solvent power, has positive diuretic action. It is accepted that in green corn silk (the elongated styles and stigma of the female flower or silk of Indian corn) we have an agent of great power as a uric acid solvent, and that in addition it is an active diuretic. Rademaker & Fisher (U. S. Dispensatory 16th edition), have shown that this property resides in maizenic acid, present in the fresh silk in the proportion of 2.25 per cent. Maizo-lithium, a chemic union of this acid with the alkaline base lithium, has proven of superior value in conditions dependent upon uric acid; being in addition to diuretic a neutralizer and a sedative to the genito-urinary mucous membrane—a combination of properties found in few other agents. In doses of one teaspoonful well diluted it is not only more efficient, but decidedly more economical than lithia waters.

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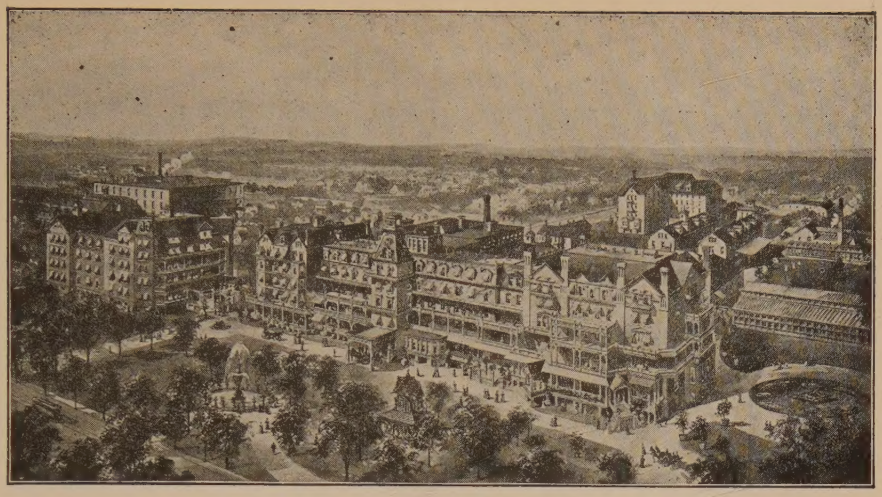

The Battle Creek Sanitarium

Is a place where chronic invalids, especially those suffering from the various forms of indigestion, the diseases peculiar to women, constipation, chronic malarial poisoning, anemia, obesity, the uric acid diathesis, neurasthesia, migraine, and similar ailments are trained into health by the aid of systematic regimen, scientific hydrotherapy, massage, Swedish movements, Swedish gymnastics and other rational means. Most cases of Bright's disease, diabetes, locomotor ataxia, and many other maladies which are incurable under ordinary conditions, are greatly improved by the combined use of rational remedies and systematic regimen, and many are practically cured. Extensive bacteriological, chemical and microscopical laboratories connected with the institution afford excellent facilities for accuracy in diagnosis and original research.

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It is announced that the dates of the next meeting of the Mississippi Valley Medical Association have been changed from the 10th, 11th and 12th of September, to the 12th, 13th and 14th of September. This change has been made necessary because the dates first selected conflicted with another large association meeting at the same place.

The meeting is to be held at the Hotel Victory, Put-in-Bay Island, Lake Erie, Ohio, and the low rate of one cent a mile for the round trip will be in effect for the meeting. Tickets will be on sale as late as Sept. 12th, good returning without extension until September 15th. By depositing tickets with the Joint Agent at Cleveland and paying 50 cents the date can be extended until October 8th. This gives members an opportunity of visiting the Pan-American Exposition at Buffalo, to which very low rates by rail and water will be in effect from Cleveland.

Full information as to rates can be obtained by addressing the Secretary, Dr. Henry E. Tuley, No. 111 West Kentucky Street, Louisville, Ky. Members of the profession are cordially invited to attend this meeting.

Those desiring to read papers should notify the Secretary at an early date.

THE "PAPYROS EBERS."

Believing that physicians, of all men, are most interested in the history of their art, the makers of Hemaboloids are now prepared to present to their friends in the medical profession a fac-simile reproduction of the beginning of the earliest medical treatise extant, together with transcription into hieroglyphics and translation of a portion of the text.

The famous "Papyros Ebers," which was written during the reign of the Egyptian king Bicheres, 3,500 years ago, was discovered by the celebrated archeologist, Georg Ebers, in 1872, when an Arab brought him a metallic case containing a papyrus roll enveloped in mummy cloths, which he claimed had been discovered between the bones of a mummy in a tomb of the Theban Necropolis. A complete description of the papyros and its history is included in the reproduction and is certainly extremely interesting to physicians and antiquarians generally. A copy will be forwarded by the Palisade Mfg. Co., Yonkers, N. Y., to any physician who may have failed to receive one.

SANMETTO IN UTERINE CONGESTION.

Dr. M. J. Halsey, of Fowler, Ind., writing, says: "I have found Sanmetto perfectly satisfactory and I take pleasure in recommending it in cases of uterine congestion, having tried it and proved its efficacy in such a case. I have placed it in the foremost of my list of favorite remedies for congestion of any mucous membrane in the body."

Society Reports.

JEFFERSON COUNTY MEDICAL SOCIETY.

Stated Meeting, May 27, 1901.—Dr. W. E. B. Davis, in Chair.

Dr. L. G. Woodson read a paper on "Foreign Bodies in External Auditory Canal," and reported some cases. Foreign bodies in the auditory canal are either animate or inanimate. The first class include insects, flies, etc., and usually cause great pain and annoyance. They are best dealt with by filling the canal with warm oil, and then (after thus killing the insect) syringe out the body with warm soda-solution. Inanimate bodies include almost any object that is sufficiently small to enter the canal. They rarely cause much pain, unless quite rough or lie against the drum. Their removal should always be attempted with great care. No physician should try to remove by instrumental means any foreign body from the ear, without having the canal well illuminated by means of reflected light. The canal is constricted about its center, and this point should always be held in mind. If the physician does not use a head mirror he should rely upon the syringe and soda solution.

In the writer's hands a bent hook, very delicate in size, has given great satisfaction.

Case 1.—J. B., aged 89. An "African bean," size of ordinary pea, was removed after 85 years' "residence" in external ear. The bean was impacted in cerumen. This was first removed by syringing, and the bean removed by the bent hook.

Case 2.—X. Y., age 26. Coffee bean removed from ear after being in canal over twenty years. In this case there was purulent discharge, and much pain and discomfort. After the removal the patient was entirely cured by appropriate local treatment.

Discussion.—Dr. Stubbs spoke of a case in which a piece of mortar had been driven partially through drum membrane. Cerumen, when impacted, acts as a foreign body, and is the most frequent of all with which we have to deal. Peroxide of hydrogen instilled into the affected ear (15-20 drops q. i. d.) and retained acts well in softening and facilitating the removal of the wax. Physicians should learn to use the head mirror.

Dr. H. S. Ward presented a paper on "Puerperal Eclampsia," with case. The etiology of puerperal eclampsia was considered according to the ideas of the latest observer. In the treatment of the condition, measures which tend to prevent and those which cure are used. Among the first class is included the most careful attention to the

bodily functions—it being necessary especially to watch the renal excretion. The curative agents comprised bleeding, saline infusion, and numerous drugs—most prominent among the latter being veratrum, morphine and chloral.

Case. Primipara; aet., 15 1-2; convulsions came on after having been in labor ten hours; morphine was first used, and controlled temporarily the convulsions, but later veratrum was administered. The case recovered promptly.

Discussion. Dr. C. Wilson spoke of the great importance of close attention to the diet of all pregnant women. Bleeding, in suitable cases, is probably the most rational method of treatment.

Dr. Abernathy believed bleeding to excel all other forms of treatment. The headaches are due to engorgement of the brain.

Dr. Whaley has used venesection in two cases of eclampsia with complete success.

Dr. Sellers reported two cases in his experience. The first case died in the very first convulsion; in the second an attempt was made to bleed the patient, but blood would not flow. This patient also died.

Dr. Wilder suggested that theoretically apomorphia in doses 1-20 grain was indicated.

Dr. C. C. Jones spoke of his experience with puerperal eclampsia in fifteen cases. Veratrum viride in ten drop doses hypodermically until slight nausea was produced, was the method in most of his cases. In one instance antipyrine grains ten, hypodermically, had been curative. Chloral is of value, but does not rank with Norwood's Tincture of Veratrum.

Dr. Harkness had had a case of puerperal (?) eclampsia in an infant. Saline infusions should be used in cases where the pulse had a low tension.

In closing, Dr. Ward said that the saline infusion had not given the results which had been hoped for it. The brain is anemic during the convulsions.

Drs. A. W. Sims, of Birmingham, and W. H. Wynne and L. M. Latham, of Ensley, were elected to membership in the society.

In obstinate cases of dysmenorrhea there is no better remedial agent than Pheno-Bromate. Many eminent physicians have used this preparation and have been highly pleased with results. The Pheno-Bromate Chemical Co., 38 Murray St., New York, will be pleased to send samples to any physician who may wish to try it in the treatment of cases indicated.